The Journal of the
American Medical Association

VOL. XXXIII CHICAGO, ILLINOIS, SEPTEMBER 30, 1899. No. 14

Original Articles.

SURGICAL TREATMENT OF ABSCESS OF THE LUNGS.

BY D. S. FAIRCHILD, M.D.
CHIEF SURGEON ST. JOSEPH'S HOSPITAL.
CLINTON, IOWA.

Pulmonary abscess is said by Osler to be easy of recognition, but for my own part I have to confess that I have met with cases in which grave doubts existed in my own mind as to the question of differential diagnosis between abscess of the lung and encysted empyema. I have also met with cases in consultation in which the attending physician was in error touching the existence of any abscess at all. It is no doubt true that an abscess discharging through a bronchial tube may be recognized without much difficulty, but previous to this time I am quite certain it may be easily overlooked.

Pneumonia is now generally recognized to be an infectious inflammation of the lungs, due in the majority of cases to the influence of the diplococcus pneumoniæ of Fraenkel. The disease generally pursues a well-defined course marked by certain pathologic changes; once in about fifty cases it is said the pathologic changes result in the formation of an abscess. The consolidation which results from the inflammation appears to impair the resistance of the lung to a degree which, under favorable conditions of infection, may lead to the formation of pus, and the extension of the infection leads to an accumulation of pus to the extent of forming an abscess of greater or less size, or to more than a single abscess. In view of the fact that pneumonia is a disease due to a microbe which sometimes has the faculty of setting up pyogenic processes, it is quite a matter of surprise that in this disease abscesses of the lungs do not more frequently occur. A considerable number of conditions may lead to the formation of pus in pulmonary tissue, but the most frequent causes are pneumonia and tuberculosis. The complicated character of abscesses or cavities in tuberculosis or other diseases of the lungs than pneumonia, or the inflammation following injuries or foreign bodies renders surgical procedures of doubtful utility, except in rare cases. My experience being confined entirely to abscesses following pneumonia renders it hazardous for me to go outside of pus accumulations arising from this cause.

In a case of pneumonia, if after the end of two or three weeks there is still fever and absence of improvement in the respiratory murmur, or if marked improvement in the general condition of the patient has taken place at the usual period of convalescence, together with an improvement in the respiratory condition of the affected lung, the fever reappears, and the area of consolidation extends, it may be assumed that some complication exists. Among the complications may be found consolidation of the lung, hydrothorax, empyema or abscess. Which of these conditions we have to deal with I am confident can not always be determined. If bacteriologic investigations show the tubercle bacillus, it is of course significant. The absence of bacilli is not conclusive. The usual symptoms of fluid in the pleural cavity may be looked for, and if discovered the nature of it can be determined by the use of the aspirator needle. It is usually possible, however, to determine the nature of the fluid by the clinical symptoms; the presence of chills, morning and evening temperatures, rapid pulse, and the general symptoms of septic infection are significant, but it is best not to rely on this alone, for in some cases the presence of pus may not be revealed in this way and the exploring trocar should be used to determine the facts absolutely.

Encysted empyema will not reveal itself by the ordinary symptoms of fluid in the chest cavity and it is often difficult to distinguish between this and an abscess in the lung. An examination of the lung may show that the air enters the anterior or posterior surface—more particularly the anterior in my practice—while the opposite surface is solid, showing an entire absence of vesicular or bronchial respiration. While the air may enter the anterior or posterior surface, the respiratory murmur is abnormally feeble. I have a patient on whom I operated some time ago, where well-marked but rather feeble respiratory sounds were found on the anterior surface of the right lung, but the posterior was absolutely solid; this condition had existed for about eight months, large quantities of pus being discharged through the bronchial tubes every morning. This differed from an abscess of the lung only in the absence of an offensive odor and the absence of a cavity. The diagnosis was confirmed by the introduction of an aspirating trocar between the ribs at the lower border of the scapula. A portion of rib was resected and the cavity drained. An exploration of the cavity by the finger revealed the encysted empyema.

An abscess of the lung is a much more serious condition than an empyema, on account of the difficulty of surgical drainage. In an abscess of the lung, after discharge through a bronchial tube has taken place, the drainage is frequently so unsatisfactory that after the first discharge of pus, it continues to partially fill and discharge for a considerable length of time or until the patient is exhausted. In cases where it is possible to drain by surgical means better results may be obtained. It will sometimes be observed in abscesses of the lungs that a single abscess forms, discharges, the cavity gradually contracts, and finally the patient is cured. In other cases several abscesses form and discharge at different times; this will occur when several foci of pus infection appear in a lobe which has been damaged by the intensity of the inflammatory process, even in cases which are not of embolic origin. These cases are no doubt more serious than where a single abscess forms.

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The remainder of the products of inflammation are removed by absorption or by expectoration, but the case is more protracted.

Two cases treated surgically by myself will illustrate this fact. About seven years ago I was called in consultation to see a man weighing 250 pounds, who had been attacked by croupous pneumonia two months previously. The pneumonia had pursued the ordinary course, and apparent convalescence occurred. About two weeks subsequent to this, the fever began to rise and soon after an expectoration of exceedingly offensive pus occurred. The discharge was through a small bronchial tube and the cough was almost incessant, interfering seriously with sleep or comfort. When I saw him this condition had existed about three or four weeks; it was not quite clear to our minds whether we had to deal with an abscess of the lung or an encysted empyema.

The respiratory murmur was quite clear over the anterior surface of the right chest, although somewhat feeble. The posterior surface was quite solid; not even bronchial respiration could be discovered and the area of consolidation did not change on account of the position. The patient was placed under the influence of chloroform. The posterior surface of the chest was prepared for an operative procedure and an aspirating trocar introduced deep into the chest, first between the sixth and seventh ribs just posterior to the axillary line, with negative results, again between the fifth and sixth ribs, a little farther back, with the same results. The needle was introduced a third time, between the fourth and fifth ribs, in the angle between the scapula and the vertebral column, and obtained a free flow of pus; leaving in the trocar, as a quite free incision was made through the thick mass of muscles down to the ribs. The space between the ribs was not sufficient for satisfactory work and 1½ inches of the fifth rib was resected. Following the needle I found that the two pleural surfaces were united and, thereby, the pleural cavity was protected from pus infection. I pushed a pair of straight, broad-ligament-forceps boldly over the needle through an inch of lung substance into the abscess cavity, separated the blades freely, introduced a large rubber drainage-tube, and a large quantity of pus escaped. The cough and expectoration of pus at once ceased and the patient made a rapid and uninterrupted recovery. In this case the discharge through the bronchial tube was only sufficient to remove the constantly forming pus, and therefore no cavity was permitted to form and one of the classic symptoms, the existence of a lung cavity, was absent[1]. The point of differential diagnosis in this case lay between abscess of the lung and an encysted empyema communicating with a bronchial tube. The only symptom of value indicating an abscess was the offensive odor of the pus expectorated.

Another case more recently under observation was that of a young man who passed under a rather severe attack of pneumonia. Convalescence became partially established, but soon the fever began to rise, consolidation of the lung persisted, and it became evident that some serious lesion existed; cough and expectoration was slight; sputum was examined for tubercle bacilli, but with negative results. I saw the case in consultation, June 18, 1898. The lower lobe of the left lung was solid, except the anterior surface, in which the respiratory murmur was feeble; heart displaced toward middle line; temperature ranged from 101 to 103; no cavities; no expectoration of pus. After a most careful examination I could not make a complete diagnosis of the pathologic condition, but believed that pus existed in the lungs or in the pleural cavity as an encysted empyema. To clear up the doubt I introduced an aspirating trocar under aseptic precautions, between the fifth and sixth ribs, just posterior to the axillary line, and withdrew a large syringeful of pus. A free incision was made in the track of the needle and the pleural cavity opened, but no pus was found, only a quantity of serous fluid. My finger, which had been carefully prepared, was introduced and the surface of the lung explored. The space between the ribs was wide, and no resection was necessary. It had been determined beyond doubt that an abscess of the lung existed, by the deep exploration of the needle, and as the pleural cavity was exposed I did not feel justified in incising or puncturing the lung for fear of infecting the pleura. I therefore packed the wound lightly down to the lung, with iodoform gauze.

A few days later a free discharge of pus occurred through the wound, with the result of bringing down the temperature to 98.5 in the morning and 100 in the evening, with a corresponding reduction in the pulse. For seven days the improvement was marked. The discharge of pus gradually lessened. At the end of this time the temperature began to rise. Fearing that the drainage was not sufficient the patient was again anesthetized, June 27, and my finger forced through the chest wound. It now entered an irregular cavity of considerable size, in the lung, but no accumulation of pus was found, showing that the drain provided for the discharge of all the pus formed. Any further operative procedures were deferred under the hope that if the pus was again forming it would soon find its way into the old abscess cavity as the evidence seemed to show that we were already in the area of infection.

Six days later, July 31, the temperature, which had ranged from 101 to 103, fell to 99.6, with a corresponding improvement in his general condition. Under these circumstances it was deemed best to defer operative procedure; nevertheless, a point on the posterior surface of the chest between the fifth and sixth ribs was selected for exploration providing the patient did not continue to improve.

Three days later, however, the temperature began to rise and ranged between 101 and 104. It now became certain that another collection of pus existed and that further operative procedures were necessary. Accordingly, on July 15 exploration was made between the fifth and sixth ribs on posterior surface—at the point selected on the previous visit—and a large amount of pus found; resection of a portion of the fifth rib permitted an exploration of the cavity of the lung.

We now had two lung cavities separated by a mass of lung tissue, no doubt in condition of consolidation, offering a degree of resistance which did not permit the pus of one cavity to enter the other. The irregular outlines of both cavities could be determined by pushing the finger deeply into the wound. The improvement which followed the last operation did not continue long. Three days later the temperature rose to 104 and on July 19 I found a bronchopneumonia in the right lung. This condition had no doubt arisen from the insufflation of pus germs during chloroform narcosis, for, during the few days previous to the last operation a small quantity of pus had escaped through a bronchial tube. The condition appeared to be desperate, but fortunately the bronchopneumonia subsided and the patient made an uninterrupted and rapid recovery, thanks to the skillful care of Dr. Ruml of Cedar Rapids, Iowa.

While it may be difficult or impossible to differentiate

[1] Reported Chicago Med. Rev., May, 1893.

in a considerable percentage of cases between abscess of the lung and an encysted empyema, it may be said that the means of absolute diagnosis is the same, viz., puncture of the suspected area by an aspirating needle. If pus is found it should be evacuated by free incision, resecting a rib if necessary, to obtain sufficient drainage. If on entering the chest cavity no pus is found, the finger should be introduced for the purpose of exploration. The failure to obtain pus after its presence has been demonstrated by deep aspiration may be taken as evidence that the abscess is in the lung itself. If the finger reveals the fact that the pleural membranes are not adherent, then gauze may be lightly packed against the pleural pulmonalis to invite adhesions and thus protect the pleural cavity from the danger of infection, when subsequently the abscess is opened. There are no doubt cases where the immediate danger is so great as to warrant the surgeon in ignoring the risk of infecting the pleural membranes and opening the abscess at once, but I can not agree that this is the safest course when a few days' time can be spared. In the case I have referred to may be mentioned the fact that there was serous effusion sufficient to hold the pleural surfaces apart and thus prevent the adhesions which would otherwise probably have taken place.

I do not think it is a good practice in cases of either pulmonary abscess or empyema to use irrigation; it can do no good and often causes distressing irritation of the lung. In my earlier practice I resorted to injections of solutions of boric acid, but I have not done so of late years. As to the administration of medicines, very little can be said. It is true that certain means may be employed with great advantage for the purpose of supporting the strength of the patient, but these are indicated on general principles, regardless of the fact of a pus accumulation. It is no doubt true that if the pus is due to the pyogenic action of the pneumococcus degeneration and absorption may take place, but if it is due to a mixed infection or to the streptococcus, as is usually the case, no such fortunate result can be expected. The disease then becomes certainly a surgical disease and should be treated by surgical means adapted to the individual case, always having in view the necessity of drainage. In a certain proportion of cases the abscess discharges itself through a bronchial tube and a spontaneous cure is accomplished in this manner. While this can not be looked on as a scientific termination of a case, it is, however, the best that can be looked for in a certain number of cases.

DISCUSSION.

DR. A. H. LEVINGS, Milwaukee, Wis.—I am very much interested in the subject which the Doctor has so well placed before us, and think it is one which has not received the attention its importance merits. Some noted clinician has said, "Before treating a pulmonary abscess one must make a diagnosis, and not only make a diagnosis, but must locate the abscess." A reliable diagnosis of abscess of the lung will depend on the history, the symptoms, the character of the sputa and a thorough physical examination of the chest. An abscess of the lung is usually a secondary process; its symptoms will be more or less intermingled with, and marked by those of the original disease, in common with other acute affections of the lungs; there is pain, disturbed respiration, fever and cough; on percussion, there will be circumscribed dulness, provided the area affected be of sufficient size and superficially situated, with bronchial breathing and more or less râles. With the formation of a cavity, if the process be superficial, a portion of the dull area will have changed to tympanites, and if the costal pleura be implicated, there will be the friction sounds of pleurisy.

In a case under my observation, the percussion-note was observed to alternate over a circumscribed area between dulness and tympanites. After a severe fit of coughing and the expectoration of a quantity of pus, the area which had previously been dull would become tympanitic, following this, if the patient did not cough much for twenty-four hours, and allowed the cavity again to fill, the percussion note would change to dulness. If the cavity be in full communication with a bronchus, the percussion-note will be higher with the mouth open than with it closed.

Gerhardt has called attention to the fact that if the cavity be longer in one direction than in another, and contains fluid, change in the patient's position will change the pitch. This interrupted change in pitch is considered pathognomonic, that is, with the mouth open a rise of pitch is noticed upon percussion only in a certain position, as in sitting up. While the location of the abscess is determined as nearly as possible, by a physical examination, this finding must be proved true, or corrected by the aspirating needle. If one fails with the needle to locate the abscess, then I believe it is imperative, if the symptoms are pronounced, to make a resection of one or more ribs, and palpate the lung.

DR. J. B. MURPHY, Chicago—I wish to speak of one condition in connection with the operation. In abscess of the lung, where we have pleural adhesions, is not difficult to operate. One can expose the lung, divide it with the scalpel, which is the best means, down into the abscess cavity, but we have an additional danger, and I paid for the knowledge, by sacrificing a patient a few days ago. It was a case of abscess of the lung following the inhalation of a peanut. The abscess was located under the angle of the scapula. There was a paroxysmal cough; expectorations of a half ounce every two or three hours. The abscess cavity could not be emptied by placing the patient in any particular position. There appeared to be no excursion of the lung. We believed there were firm adhesions of the pleura at the time of operation and did not carry out a plan which I have devised, demonstrated experimentally and which I shall always do in the future, regardless of adhesions, and that is determining the presence of adhesions by injecting into the pleural cavity a quantity of air, which should be done without force. If there be no adhesions, the air will be aspirated into the pleural cavity with each inspiration. What then happens? If adhesions exist, the dulness will remain and respiratory sounds will not change. If adhesions do not exist, the lung will collapse and respiratory sounds in that side will cease. In my fatal case, after resecting the ribs and exposing the pleura, I found very friable adhesions, with an increase in respiration, and the lung receded. The result was that several ounces of pus escaped from the mouth. He was resting on his healthy side. He inhaled some of the pus into the healthy lung and he died of infective pneumonia of the previously healthy lung, about forty-eight hours after the operation. I drew the infarcted portion of the diseased lung out into the incision, sutured it in the incision and had it ready for secondary opening with the scalpel or cautery, extrathoracic. I knew I could easily open it secondarily, as I had the diseased portion of the lung exposed, but he died of aseptic inhalation pneumonia produced by the pus inhaled during the anesthesia. I could have avoided that by putting the air into the pleura while he was awake and could expectorate it.

DR. D. S. FAIRCHILD, Clinton, Iowa—I have only a word in addition to say and that is in relation to physical examination. I have to confess that I am not sufficiently skilful in making a physical examination to determine whether its consolidation is due to abscess or to other causes, and I can do better if I introduce a needle. I should use the short—the smallest—needle consistent with ascertaining the real fact. I spoke of the long needle and deep exploration because we had a very large man, weighing 250 pounds. The fact in this case I did not offer as being a rule in guiding me in the matter of the long needle. I would not use a longer one than was necessary. The reason why I used a pair of forceps in pushing my way into the lung, where the abscess was located, was because I was too timid to use a sharp instrument. I used the forceps in this case and would use them again under similar circumstances.

Exophthalmic Goiter.—Dr. Pitres of Bordeaux reports that 1 c.c. of iodoformed ether injected into the parenchyma of the thyroid body at eight-day intervals for several months has cured six cases of exophthalmic goiter, and the cure has persisted two years. Six other cases were improved to such an extent that they were satisfied with the results of partial treatment and did not return to complete the course. He has thus made 120 injections and never observed any accidents.—

SOME OF THE RARE FORMS OF HERNIA AND THEIR RADICAL TREATMENT.*

BY R. HARVEY REED, M.D., (UNIV. PA.)

President Wyoming State Medical Society; Member Association of Military Surgeons of the United States, The Rocky Mountain Inter-State Medical Association, The Western Surgical and Gynecological Association; Medical Director Wyoming General Hospital; Division Surgeon Union Pacific R.R., Surgeon-General of Wyoming, etc.

ROCK SPRINGS, WYO.

The writer does not propose to review the anatomy of hernia, or enter into its etiology or pathology, neither does he propose to discuss or report cases of the more common forms of hernia, with which medical literature on this subject is already overburdened.

GASTRIC HERNIA.

It has always seemed strange to me that our text-books, old and new, should refer to hernia of the diaphragm with such mathematic precision, and at the same time ignore the presence or attempt a description in the most meager manner, of gastric hernia. Certainly it is not because the authors have not seen it, or that it does not exist, or that it is not more common than hernia of the diaphragm. One thing is certain, it is much more amenable to surgical interference with more successful results than the former. In the writer's opinion, it is much more deserving of a place in our text-books from a practical standpoint than hernia of the diaphragm.

In my experience gastric hernia has been the result of direct violence, usually over the larger curvature of the stomach, causing a solution of the continuity of the abdominal walls overlying that particular anatomic region; like ventral hernia, it is seldom if ever congenital, but is usually, if not always, traceable to direct violence.

To illustrate: Case 355, A. N., was admitted to the Wyoming General Hospital, Jan. 14, 1898, at which time we found a tumor about the size of a fist, immediately over the larger curvature of the stomach. We also found the patient suffering not only from pain, but from indigestion, and frequent vomiting, and on further investigation found this tumor varied in size, sometimes disappearing altogether, at other times being not larger than a walnut.

The patient was an unusually large muscular Swede, aged 42, and a professional coal driller, and had charge of one of the large drills in the U. P. Coal Company's mines. This drill was run by compressed air, and he was in the habit of pushing the drill into the rock or coal by pressing the one end of it against the pit of the stomach; continued pressure at this point, with a sudden lurch of the drill one day produced a tear in the linea alba, which on physical examination could be readily felt underneath the skin, and it was with little or no difficulty that I could thrust my three fingers into the opening through the abdominal wall. At times a portion of the stomach would protrude through this opening, and could be easily felt, and with little or no difficulty replaced, thus giving relief for the time being. The patient became so expert at this that he kept on with his work, and when the stomach would protrude through the opening, would stop and replace it, and go on about his business.

Becoming weary of this, he entered the Wyoming General Hospital for a radical operation, which I performed on Jan. 15, 1898. It consisted in making an incision in the median line about three inches in length, carefully dissecting down until we came to the ragged edge of the opening which had been torn through the abdominal walls in the line of the linea alba. These edges were freshened and carefully brought in apposition by the so-called "base-ball" suture. The first, second and third rows of sutures were of pyoktanin catgut, while the last row was of silkworm gut. The first row included the peritoneum only, the second the muscle and peritoneum, the third the deep fascia and the muscle, and the last row the integument and deep fascia.

The patient made an uninterrupted recovery by first intention, and was discharged Feb. 2, 1898, just eighteen days after his operation, and up to the present time has had no evidence of a return.

Again, Case 701, J. K., a strong, healthy Finlander, aged 39, miner by occupation, while lifting a prop in one of the mines, had his foot slip, and in trying to save himself caught hold of another prop, but finally fell, striking heavily on the bottom of the mine. He at once experienced intense pain in the region of the stomach and, noticing a lump, came to my office. On examination I found a tumor immediately over the larger curvature of the stomach, about the size of a walnut.

He was admitted to the Wyoming General Hospital, and operated on, Jan. 20, 1899, after the method described in Case 355, making an uninterrupted recovery, with the exception of an attack of acute cystitis. He was discharged from the Hospital, February 19, thirty days after his operation, which was prolonged twelve days more than in the former case on account of the cystitis. He is now at work in the mine, and complains of no inconvenience.

UMBILICAL HERNIA.

This is not considered as a rare form of hernia, but I take the opportunity of presenting a case of unusually large umbilical hernia and, as will be observed by the accompanying photographs, taken before and after operation, one of more than ordinary interest. The patient —Case 404—Mrs. M. L., was admitted to the Wyoming General Hospital, March 20, 1898, where she was operated on, March 24. She was born in Scotland 43 years ago, married, weighed 260 lbs., but for a woman of her size and weight was exceedingly active, doing her own work, and acting in the capacity of the so-called "granny nurse" when and wherever needed.

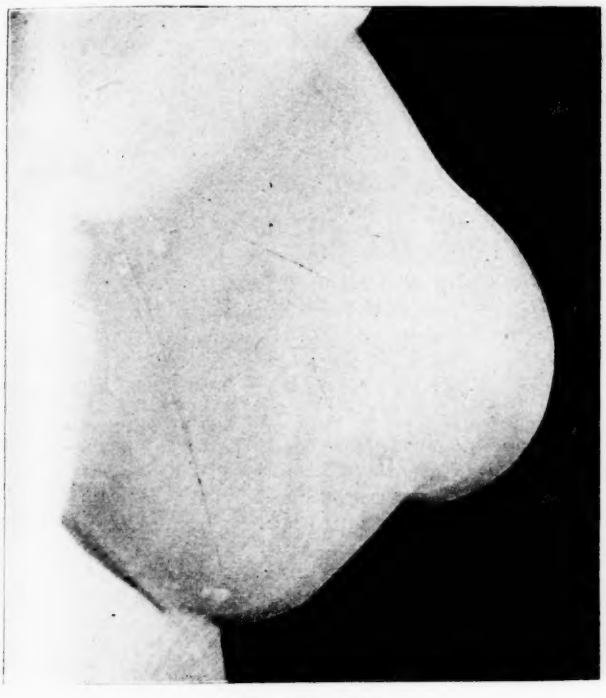
About one year previous to her being admitted to the Hospital, she noticed a tenderness about the umbilicus, which she thought might be a boil. This tenderness gradually increased, and at the same time a tumor appeared, which also continued to increase in size. She consulted a physician, who told her it was an *abscess*, and wished to lance it. To this she did not give consent, and in February, 1898, called at my office, when I found a tumor so large that when she was sitting down on an ordinary chair the anterior portion of the tumor was even with the knees when the legs and thighs were flexed.

My diagnosis was umbilical hernia, involving the omentum, stomach, and the small and large intestines, and I advised her going to a hospital. On March 24, I operated and found my diagnosis correct. The opening through the abdominal wall was large enough for me to pass my closed fist through it without touching either side. I removed about two pounds of omentum, and returned the remainder with the intestines and stomach to their normal positions. After thoroughly dissecting off the fibrous ring, which surrounded the opening through the abdominal wall, and removing an elliptic

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

piece of skin from each side of the abdominal incision, each one of which was about three inches in width, at its widest point, and about six inches in length, in order to make the integument conform with the reduced size of the abdomen, I proceeded to approximate it with the continued pyoktanin catgut suture. My first row of sutures included only the peritoneum; the second, the muscular structures and peritoneum; the third, the deep fascia, being careful to include the muscle, and lastly, I carefully approximated the integument with interrupted silkworm gut suture which included the deep fascia.

She made an uneventful and uninterrupted convalescence and was discharged with a complete recovery. Before she left the Hospital I made careful measurements and had a double-legged Hamilton supporter made for her, so as to prevent the return of the hernia. After returning home, she attempted to improve the supporter, but in her efforts to do so, destroyed its usefulness and threw it away, and went without any support whatever. She continued her duties as housewife,



BEFORE OPERATION.

but after some months the hernia partially returned, but not to such an extent as before and does not pain her as it did prior to the operation. We feel, however, that this was due to her immense size and to the fact that she did not carry out the instructions regarding the use of the Hamilton supporter, which, I think, had it been used, would have prevented her from having any further trouble. As it is, however, she is able to do her ordinary duties with little or no inconvenience, her health is good, and if anything, her weight is greater than before the operation.

VENTRAL HERNIA.

While ventral hernia is most commonly found at some point along the linea alba, yet it is not infrequent that it may be found at other points in the abdominal walls. To illustrate this, I will refer to a case which came under my observation in Columbus, Ohio,—a male, between 50 and 60 years of age, who had served his country in the Civil War. While in the service he sustained a ventral hernia which protruded through the muscular structures of the left side, and at times became as large as the crown of an ordinary hat, and from the symptoms set forth involved not only the large and small intestines, but the left kidney. I was called to see him in numerous acute attacks and found not only constipation of a character indicating complete obstruction of the bowels, but also partial suppression of the urine, neither one of which was relieved until after the contents of the hernial sac were evacuated and the viscera which it contained were returned to the normal position. I suggested an operation a number of times, but he always objected, and said he would take his chances rather than have an operation, although the last time I attended him, which was nearly two years ago, it came very near costing him his life, and no doubt will, sooner or later, if he is not relieved by surgical interference.

The most common case of ventral hernia at the present time is the sequel of an abdominal section. A good illustration of this kind is shown in Case 421. Mrs. A. C. S., age 36, born in Scotland, married, and who was admitted to the Wyoming General Hospital April 16, 1898, gave the following history:

AFTER OPERATION.

About five years previous to her admission to the Hospital she was operated on for a supposed ectopic pregnancy. In order that the operator might have a complete view of the abdominal cavity he made an incision which began at the ensiform cartilage and extended to the os pubis. This was followed by a large ventral hernia, which allowed almost the entire contents of the abdominal cavity to protrude through the opening which had been made in the abdominal wall, and which had never been closed, and for years had made such continued pressure on the integument that it was thinned down so as to leave a very fragile partition between the abdominal viscera and the outside world.

She was again operated on, April 18, 1898, which necessitated my making an incision almost the entire

length of the former opening. After making the incision through the integument, I found a very large opening through the abdominal wall, which measured nine inches in length and about three at the widest point. The muscles had become contracted, and around this opening was an oval, fibrous non-elastic band which I was obliged to dissect out completely, after which I brought the abdominal walls together with pyoktanin catgut, by the method already described, excepting that I used the interrupted instead of the continued suture.

This patient made an uneventful recovery, and was discharged May 10, 1898, after having been fitted with a double-legged Hamilton supporter, and so far as I have any knowledge, up to the present date has had no further trouble, but is able to continue her usual duties, and "trip the light fantastic toe" with ease and grace.

LABIAL HERNIA.

In looking over a dozen or more of the modern text-books I was very much surprised to find that labial hernia was seldom referred to, excepting where the viscera passed between the vagina and the ramus of the ischium. The case which I am about to report does not constitute one of this class, but is one in which the bowel broke through the abdominal ring, passed down the canal of Nuck, and descended into the labia majora. It is as follows: Case No. 564, Mrs. J. B. Z., married, white, age 22, born in Germany, when about four months pregnant, while doing a large washing, lifted a heavy tub of clothes and immediately afterward felt an intense and smarting pain along the line of the canal of Nuck, and this was followed by a tumor in the labia majora.

She was admitted to the Woming General Hospital Sept. 19, 1898, and was operated on the next day. An incision was made over the tumor, which was found to consist of small intestines which had found their way down through the abdominal ring and along the canal of Nuck, which was laid open to the external abdominal ring, after which the viscera were returned to the abdominal cavity; the redundant sac was amputated and the stump sutured with pyoktania catgut in the external abdominal ring, after which the canal was subcutaneously closed with a continued suture, including the labia majora. This was followed by closing the integument with interrupted silkworm gut suture, after the manner already described in my former operations.

Notwithstanding the pregnancy, this patient made an uneventful recovery and was discharged from the Hospital on Oct. 5, having fully recovered.

She went on to her full term and was delivered of a large child, by my assistant, Dr. Chamberlain, without any return of the hernia, and is now in her normal health and suffers no inconvenience whatever. Her general health is good, and to all appearance there is no indication of the return of the hernia.

Deductions.—Notwithstanding that our text-books are filled with discussions on the various methods for operating on the more common forms of hernia, and that nearly every operator has his own method for repairing breaches in the abdominal cavity occurring in the inguinal and femoral region, yet, the report of the few cases given in this paper, of the rarer forms of hernia, shows conclusively:

1. That all cicatricial tissue must be completely removed.

2. That the most perfect apposition of the separated parts must be secured.

3. That strong, flexible, thoroughly sterilized and absorbable animal tissue should be used for subcutaneous sutures, and that non-absorbable thoroughly sterilized suture should be used for approximating the integument.

4. That great care should be taken to avoid the possibility of necrosis, by shutting off the normal blood-supply, and thus not only preventing the absorption of the animal suture, but eventually causing the breaking down of the adjacent structures, thus deprived of their normal blood-supply, which is bound to complicate the case.

Remarks.—After having tried different kinds of animal tissues, prepared by different methods, for subcutaneous suture, I have obtained the best results from pyoktanin catgut, which I have prepared, by my chief nurse, under my personal direction. For over two years I have purchased my catgut in the raw form from a firm in New York, which experience has taught me, furnished a most excellent and reliable form of catgut. This is prepared, first by immersion in ether for not less than four days, after which it is wound on glass spools and immersed in a solution of 1 to 1000 pyoktanin in absolute alcohol, after which the jar containing the alcoholic solution of pyoktanin with the catgut is sterilized for one hour under pressure. It is my custom to have the catgut sterilized in this manner each time after it has been opened for use; this, however, will in time cause the catgut to become fragile, when it is thrown away and a new supply is prepared.

Catgut prepared in this way is not only strong, but very flexible, and, as a rule, is absorbed in from seven to nine days.

My objection to some of the other methods of sterilization is their overhardening of the animal tissues, thus preventing absorption of the suture after the parts have become repaired, when the catgut or other animal suture becomes a foreign body, and unless removed is sure to produce suppuration, if not promptly removed, very greatly to the annoyance of the operator and the patient.

By preparing catgut as above described, I have had the least amount of trouble in this direction. There are other methods for preparing it which make it pliable, but unfortunately when these are used it is absorbed too soon, and allows the wound to gap open before it has had time to repair, hence it has been my aim to adopt a method for the preparation of animal suture that will insure proper sterilization and at the same time will perform the services required, with as little additional demands on the economy as possible.

Conclusions.—It has been the writer's aim in the preparation of this paper to present only facts, and cases, which have come under his personal observation, and to report a few cases for illustration, and, briefly, the method by which they were operated on, and the results, in the belief that we should study the rarer forms of hernia, and their methods of repair just as well as the more common forms which are of every-day occurrence to all practical operating surgeons.

DISCUSSION ON PAPERS OF DRS. REED AND FERGUSON.*

DR. F. W. MCRAE, Atlanta, Ga.—The cases which I shall report—I have not prepared a paper and did not intend to present one—of hernia of the diaphragm are unusual, and of such interest that I should like a few minutes to present them to the Section.

In 1894 I operated deliberately for hernia of the diaphragm. The patient had received a stab wound six months previously, that penetrated the chest and the diaphragm. The wound was treated without stitching the diaphragm. About six months later I was called to operate on him for acute obstruction of the bowels. There was a tympanitic tumor presenting

*Dr. Ferguson's paper appeared in the Journal of July 1.

at the old scar. The operation was undertaken in the possible hope of giving relief. At the time of the operation I found the whole transverse colon, part of the stomach and small intestine in the left thorax. The lung was pressed up until it was not larger than my fist, occupying the apex of the thorax. This case I reported in detail elsewhere.

The other case occurred a few weeks ago: a negro woman, aged about 30 years, who gave the history of having had severe attacks of constipation for several years. She had been in the hospital, on the medical side, for four or five days, with absolute obstruction of the bowels, before she was transferred to the surgical side. This obstruction had existed for two days prior to her having been brought to the hospital. As soon as the case was turned over to the surgical side, I had the woman prepared, and I operated at once, without any idea as to what the condition was. On opening the abdominal cavity, I found, tracing the distending bowel, that there was a knuckle of the colon which had passed through a small opening in the diaphragm. This was apparently a congenital opening, no larger than my finger; no hernial sac, only a small knuckle of the transverse colon—splenic flexure—passed into the opening. There was absolute obstruction. On enlarging the opening slightly, which was done without difficulty and without shock or interference with respiration, I was enabled to liberate this knuckle of intestine. This woman had had stercoraceous vomiting for several hours, and was vomiting when put on the table. The mistake I made here was that her stomach was not washed out. After withdrawing the hernial protrusion I was enabled to stitch the opening in the diaphragm with a continuous suture, without difficulty. This closure was done without any difficulty. There was no depression; respiration went on properly, but I killed the patient a few moments later. The stomach and intestines were distended; she had taken all sorts of purgatives to make the bowels move, when it was absolutely impossible for them to move, and the whole upper intestine was filled with fluid feces. After the operation had been completed, without opening the intestine, which I should have done to let out this material, I attempted to press those intestines back into the abdominal cavity, and instantly there was a regurgitation and inhalation of the liquid; the woman was practically drowned; there was a large quantity of this material immediately taken into the lungs. I made two mistakes, in not washing out the stomach—it was an emergency case—and in not opening up those distended intestines and allowing that pent-up material to escape. I believe life might have been prolonged for a time. I am sure the woman might have been saved if an early operation had been done. There were no surgical difficulties present. I was surprised at the ease with which I was able to insert the suture and to close the opening in the diaphragm. The post-mortem showed that there had been a perfect closure of the opening in the diaphragm. The cue to operation in my first case was taken from Dr. Marcy's book on "Hernia," recommending operation.

CHAIRMAN—We have with us one of the pioneers in this sort of work, Dr. Marcy of Boston, and I would request that he come forward to the platform and open the debate on these excellent papers on hernia.

DR. H. O. MARCY, Boston—Dr. Ferguson very properly called attention to the infundibular process, which unfortunately has usually been described as pertaining to the normal anatomy. This is not true and in the well-developed man is only made to appear as a depression at the site of the internal ring by making traction on the cord. We are indebted to Cloquet of Paris, who carefully describes it. He dissected over four hundred subjects having hernia in different stages of development, and not unnaturally describes the earlier conditions, where the internal ring was relaxed and the peritoneum depressed as anatomically normal. Quite to the contrary, I have satisfied myself that this is due to a defective closure of the parts after the passage of the testicle through the inguinal canal. This leaves an inherent weakness of the parts, predisposing to hernia, which may not take place until even late in life. In the development of a hernia, as usually formed, the internal ring is depressed from above downward, leaving the cord in its lower border, forming a funnel-shaped depression, and, little by little the hydrostatic intra-abdominal pressure dilates the canal until the hernia is complete. Very naturally it becomes evident that the rational way of curing the hernia would be to reconstruct the parts to their normal anatomic condition, and this can only be effected by restoring the inguinal canal to its oblique passage through the abdominal wall, so that the intra-abdominal pressure is brought to bear at, or near to, a right-angle with its long axis. The only other illustration of this valvular closure of a canal in nature is the passage of the ureter through the wall of the bladder, from which, indeed, I obtained my first suggestion, which taught me the necessity of the reconstruction of the inguinal canal for the cure of hernia, which necessitated two radical departures from that which had been hitherto taught as permissible. A free dissection, a separation of the peritoneal sac, quite within the border of the internal ring—the cord having first been carried upward, toward the median line—and sutured evenly across its long axis, and resected. The peritoneum thus freed should leave no depression at the site of the suture.

The internal ring is now closed from below upward, quite on the cord, which lengthens the inferior border of the inguinal canal, to normal length. The cord is replaced and the external structures sutured over it, re-forming the external ring. It will be noted that in order to accomplish this the deeper layer of the sutures must necessarily be buried, that is, cut off and left in the structures. This was the first use ever made of buried animal sutures in surgery, and I deliberately applied them for this very purpose, after experimenting with them for a considerable time, in a long series of studies on the lower animals.

My first publication on the use of buried sutures for the cure of hernia was in 1870. Repeated publications on the subject followed in this country, catgut having been used for the buried suture. In 1881, at the International Congress in London, I read a paper on the subject, advocating the use of the tendon suture obtained from the moose and caribou. In 1884, at the International Congress in Copenhagen, I still further reported my experiences in the cure of hernia and there exhibited specimens of suture material, obtained from the tail of the Kangaroo, which I have since used in all my work, believing that well-selected and prepared tendon is superior to any other suture material. Bassini's first work for the cure of hernia, embracing the essentials as above outlined, was in 1886, and his first publication was made in 1888.

Our profession very justly demands of its members a free contribution of every advancement in science, making double the honor accruing to the contributor, since he may not profit in any other way. Names signify comparatively little, but I am not quite content that the operation for the cure of hernia, which I devised and have so long practiced in all its essentials, should not be at least accredited to American surgery.

Dr. E. D. Ferguson[1] of Troy, N. Y., in a paper entitled: "The Operative Cure of Hernia in Men," reviews the subject with judicial fairness, and to this paper I refer any who may ask an investigation of this subject.

I am quite sure that the contribution of Dr. Ferguson is of value more from calling attention to the fact of the defective condition of the structures with which we have to deal, than from the importance of the obliquity of the external incision which he advocates. Most operators are more or less aware of these conditions, and the suturing of the structures which go to form the posterior wall of the canal must correspondingly vary. The atrophy resulting from the long wearing of a truss is a well-recognized cause. It is hardly possible to overestimate the importance of the proper reconstruction of the posterior wall of the inguinal canal, since on this depends, more than on any other factor, the permanency of the cure.

As you are aware, several operators have gone so far as to advocate the transplantation of the cord, even closing all the strong structures of the abdominal wall beneath the cord. This is especially faulty, in that the internal ring is no longer buttressed at its point of exit, and a direct hernia is likely to occur here.

I have reoperated on several such cases where the attempted cure had been made in this manner. Experience now warrants that hernia almost without exception admits of safe and permanent cure, and that its practice may be commended to every practitioner who is a master of aseptic surgery, and am I not addressing to-day an association whose members are competent practitioners of the science and art of modern surgery?

DR. LEONARD FREEMAN, Denver, Colo.—I wish to mention another case of hernia of the diaphragm. Some time ago I had a patient in my charge who, in cleaning a shotgun, discharged the weapon so that the load entered in the left axillary line and emerged near the sternum. The charge seemed to pass beneath the skin only; but he was not severely shocked, and said that he did not think there was very much the matter with him. I incised through the skin and found a large opening in the chest wall, through which I could insert my fist. I could catch the heart and hold it in my hand. I did not know at first what the condition was, but after examining carefully, I found, as Dr. McRae has also stated, that there was a large portion of the stomach, colon, and intestines, and the spleen, in the pleural cavity; the lung was up under the clavicle and considerable hemorrhage was going on. With considerable difficulty I succeeded in replacing the abdominal viscera and sewing up the wound in the diaphragm, which was three or

[1] Trans. N.Y. State Med. Ass'n., 1898.

four inches long. There was no interference with respiration or with the heart's action. I could pull the diaphragm almost out on the chest wall in making the sutures. The patient recovered from the operation without serious symptoms. However, during the course of the night, about twelve hours, perhaps, after the operation, bleeding from the lung took place and the patient died of internal hemorrhage.

DR. H. A. KELLY, Baltimore, Md.—So much work is done in original lines in Baltimore, I wish, with Dr. Marcy, to urge very strongly the propriety, no, the decency, of considering American claims first when American publications are prior to those of foreign authors. (Applause.) When it comes to the transplantation of the cord in hernia, getting rid of the weak point, I want all to speak not of the Bassini, but of the Halsted operation, and if you will take a little bit of trouble and consult the records you will see that Dr. Halsted's publication antedated that of Bassini's. In bad cases, in Baltimore, we find that the ordinary suturing operation—and we always use non-absorbable sutures, in spite of my good friend's (Dr. Marcy's) claim that the absorbable is necessary—in bad cases, is not satisfactory; that the only operation which gives us a guarantee of success is transplantation of the muscle—musculoplasty—bringing over the rectus muscle, as devised by Dr. Bloodgood. It sounds like bringing a bit of distant tissue from the neck over the ring, but you will notice that the border of the rectus muscle is close at hand and can be brought over the ring. Where we have had recurrences after the most careful operation was performed, they have been cured by this method, and we have had no relapses when the rectus has been drawn over the ring and used to close this.

DR. D. W. GRAHAM, Chicago—Since the question of priority and dates seem to be the order of the day, I think it both proper and right for me to state here that I claim to have first proposed the use of the sartorius muscle to strengthen the inguinal region in certain cases of old hernia; for I see Dr. Ferguson claims the idea as original with him, and has so labeled it in his printed paper. It is proper to state also, that the idea was suggested to me by reading of a cadaver experiment by a Dr. Kelly of New York, in which he used the fascia connected with the tensor vaginæ femoris muscle for this purpose. It occurred to me that the sartorius muscle might be utilized to better advantage and with more promising results. My opportunity came in April, 1895, and in May of that year, when the subject of hernia was under discussion at the annual meeting of the Illinois State Medical Society, I reported the case with details of the procedure. I withheld the report from the Transactions of the Society for the reason that I wanted to improve the technic and add other cases before publishing or recommending the method to the profession. I have not had a case since in which the procedure was indicated, and in which I could get the consent of the patient. As a plastic operation, the one I reported was only a partial success, because of avoidable technical faults, the chief one of which was hemorrhage occurring after the wound was closed, which caused the stitches to break away and the end of the muscle where it was sewed to the border of the rectus to slough. The patient was a man of about 60, with a very large inguinal protrusion and defective abdominal muscles. He had already been operated on three or four times by other surgeons, but without benefit.

DR. J. P. LORD, Omaha, Neb.—Apropos to Dr. Reed's paper, in which he speaks of ventral hernia, and hernia of the linea alba, I want to state this experience. In operating on a case of very large umbilical hernia in a woman weighing 300 pounds, who had had repeated pregnancies, the last of which resulted in twins, I found, in addition to this very large umbilical hernia two large herniæ of the linea alba in addition, one with a tumor of the omentum, the size of a Bartlett pear, and the other the size of an ordinary hen's egg. These were between the umbilical hernia and the ensiform cartilage. I do not recall having seen in my researches reference to multiple hernia of this kind.

DR. J. B. BULLITT, SR., Louisville, Ky.—Overlooking, for the time being at least, all questions of priority and the various operators, American and otherwise, I would like, for a few minutes, to discuss the papers, especially that presented by Dr. Ferguson. The curved incision seems unquestionably to afford some points of advantage, which have been already pointed out by Drs. Thomas and Lee incidentally. Concerning, however, the further procedure as mentioned by Dr. Ferguson, I fail to see that it accomplishes the restoration which he seems to believe it does. As Dr. Marcy and Dr. Kelly have mentioned, referring to the method practiced by Halsted, of transplantation of the cord, the cord, instead of being restored to its original oblique anatomic position high up, is depressed downward by bringing the internal oblique muscle to Poupart's ligament above this cord. The valve-like structure at this point, instead of being restored by Dr. Ferguson's principle, has been prevented from recurring. On the other hand, Bassini's operation does just the reverse of this; it closes the lower portion of the ring where this depressed condition of the cord has occurred, transplants the cord above to exactly the position where Halsted would place it, and restores the parts as Dr. Marcy has shown us on the blackboard, beautifully and simply, to their proper anatomic relations. Concerning the question of suture, I must agree that while my experience is very limited as compared with Dr. Marcy's, and with many other gentlemen's, I must say that this incident of breaking down of the tissue underneath the suture or with the buried cumol suture does occur and is a most distressing one. This has not always been caused by direct infection. I believe that hemostasis is not always complete and that a blood clot forms here; if any bacteria are introduced along with the sutures, they find fertile soil for development in this blood clot. Therefore, I agree with Dr. Lee that the radical cure of hernia would seem to offer a very reasonable and hopeful method of closing these wounds. Concerning the question of the buried silver-wire suture, despite the authority which we have from Baltimore—which is one of the Meccas of American pilgrimage in our day—the majority of the profession will scarcely come to adopt this method. In Louisville we are still taking out the sutures put in in Baltimore.

DR. FRANK WARNER, Columbus Ohio—I wish to emphasize the early operation on hernia. I believe too many of the works hamper you with a lot of suggestions that you will operate on a hernia when there are certain conditions this, that way and the other, but I believe the sooner we come to perform an early operation, aside from children and perhaps in old age, when they can get along by the use of a truss, the better we are going to be; the more sure we are going to be in having a satisfactory termination in our operations for herniæ, in operating before herniæ have become so large on the one hand that the parts are distorted and all of them weakened by the disturbance of nutrition, circulation, enervation, and so on, and the sooner we emphasize the matter to operate earlier, the greater success we will have.

DR. THOS. H. MANLEY, New York City—For some years I have given special attention to surgery of hernia, and there is no other subject that has had greater fascination than the history of the surgery of hernia. What strikes one particularly is the fact that practically all the modern operations had been done in pre-antiseptic times, one after the other, to be gradually dropped and displaced by another. It appears that in the last ten years, there have been something like 150 operations recommended for the cure of hernia. I was somewhat amused this afternoon in the discussion on the technic of operating for hernia, and our claims about the operation known as the Bassini, because I certainly was taught that Bassini's operation destroyed the inguinal canal, while the aim of Marcy's original operation was to restore it. As I understood the Marcy operation, the clinching feature of it was that he restored the inguinal canal.

The Bassini operation destroys the whole thing. If they can prove the contrary to what Dr. Ferguson has so well brought out this afternoon, that the functions of the testes are greatly impaired by displacing the spermatic cord, I will agree there is a very serious objection to the Bassini operation. There are some very important points which the reader has entirely failed to take up. You notice in the beginning that this operation, as described, applies to only one type of hernia, to the complete inguinal in the adult; and the majority of our operations which are being done for hernia nowadays, are on infants and children. The infant has practically no inguinal canal. The key to the whole situation, in operations for inguinal hernia, in my experience has been, and I have had no reason to change it one iota, that the best operation for the so-called "cure" of reducible hernia is that which should be the simplest, which is attended with the least mutilation of tissues, with the least loss of blood, and performed with the greatest rapidity.

DR. SAMUEL E. MILLIKEN, Dallas, Texas—At the time I read my first paper on Bassini's operation, before the Texas State Medical Association (*Med. Record*, 1892), there were many skeptics as to the possibility of a radical cure. When I began the reconstruction method ten years ago I employed catgut, but some years later my friend, Dr. Marcy, got me to using kangaroo tendon. It has been my misfortune to have been compelled to remove these stitches three months after an operation when primary union had been obtained.

DR. MARCY—You ought to have left it alone.

DR. MILLIKEN—It came to the surface.

DR. MARCY—You didn't bury it properly.

DR. MILLIKEN—The buried suture has always been a diffi-

cult problem, and I hope the longitudinal silver wire solves it for all time. Catgut, I am convinced, does not last long enough and offers an additional danger of infection. I wish to congratulate Dr. Lee and Dr. Harris for offering us a satisfactory suture material for the deeper structures in hernia work.

In 1892 I called attention to the method of dividing the aponeurosis of the external oblique by passing the grand director into the external abdominal ring almost longitudinally, instead of running parallel with the fibers—this for the purpose of giving a longer external or lower flap, at the same time caused the various layers of sutures to be in different lines and not directly over each other.

DR. J. E. MOORE, Minneapolis, Minn.—In the matter of umbilical and ventral hernia, mentioned by Dr. Lord, I wish to bear testimony to the fact that it quite frequently occurs above the umbilicus. I have operated on patients who had been treated for years for dyspepsia and all sorts of intestinal disturbances, who were really suffering from small omental herniæ, sometimes so small that they were not larger than the end of my small finger, and many times they were unknown to the patient. I have generally found those herniæ in the median line, quite frequently a little to the left; I never found any to the right. I have found, too, on examination, that the patient knew nothing of it. I would call his attention to the fact that there was a little lump there and he would say that he never would have known it. They come through the small opening and they can be sewed up, as you know. I have been interested here, because we have a multiplicity of operations, which I believe is very desirable. As one has said, it is not well to limit ourselves to one operation. Who is there here who would always perform a hysterectomy or a simple amputation by the same method? Why should we always undertake to perform a herniotomy by the same method? We have a multiplicity of methods and we should consider, in performing any radical cure of hernia, the sole idea of doing that particular patient the most good. (Applause.) You can not always bring that about in the same method. In the matter of suture, my patients in whom I have buried unabsorbable material, have stayed at home and I have been removing those sutures myself. When we perform an operation for hernia, either we get primary union or we do not. The success of the operation for hernia depends on the presence of asepsis. If our wound is aseptic, union will take place in a very few days. It does seem to me that sutures are not needed to hold four and five weeks. As I say, either you get union or you do not. Taking, as a matter of illustration, a simple amputation wound, if you get primary union you are satisfied; if your stitches will hold for six days you get a good result; if you fail to get primary union, you remove your sutures, because they are a nuisance and they are doing harm. Why not apply the same principles to the same operation for hernia?

DR. A. J. OSCHNER, Chicago.—I think that Dr. Ferguson's paper is worthy of careful consideration and discussion, because it is based on very careful and extensive anatomic study. His diagrams bring out the conditions present, with great clearness, and on this foundation he has developed an operation which is logically superior to most of those heretofore described. I saw Dr. Adams of Glasgow use the same curved incision in 1895. In 1897 I saw Dr. William T. Bull, New York, perform the operation Dr. Ferguson has just described, with the exception of the external incision. He obtained most satisfactory results by this method. I do not know whether it was original with him, nor how long he had practiced it, but the fact that several eminent and thoughtful surgeons have developed the same method speaks well for it. This method seems to me to have some advantages over the Halsted operation, from the fact that it does not disturb the tissues to so great an extent, and leaves them more nearly in a normal position after the operation has been completed. In the Bassini, as well as in the Halsted, there is often a tendency in the fibers above the internal abdominal ring, to separate and to permit the development of a recurrence at this point, while the remaining portion of the abdominal wall remains perfectly intact. Our distinguished president, Dr. Mayo, has overcome this difficulty by placing a stitch through the tissues just above this point, before beginning to suture the conjoined tendon to Poupart's ligament. A most important point in all hernia operations consists in not drawing the sutures too tightly, because the pressure necrosis which results from tightly drawn sutures always leaves a comparatively weak scar, and predisposes to suppuration.

DR. C. E. RUTH, Keokuk, Iowa—The large number of diagrams which we have had here and the number of papers tend to put us about in the same predicament that we are in with the long list of remedies recommended for the cure of diseases—that neither of them are worth anything or altogether are valueless. If we look closely at this, however, and the methods of the men advocating them, we will find that underlying all of these incisions and methods of suture there are the same principles almost identically. We have the statement that men, whose veracity we can not question, accomplish certain results almost invariably with an absorbable material, and men who are just as careful in their work, so far as we know just as skilful, fail to get primary union; they have suppuration, and they adopt another method, and so we are led to form our own conclusions as the result of our own experiences. We must each come to the point that we can not expect to follow, unvaryingly, the method of any one man, but that method which in our hands gives the best results. I must say that, despite all care that I have been able to exercise with absorbable and non-absorbable material, I have had considerable trouble, occasionally with infection, either early or late, and every one of these methods has its little advantage. But I want to thank the gentlemen, especially for myself, who have advocated so nice and timely a method which will enable us to use a removable, non-absorbable material that will do no harm.

DR F. W. MCRAE, Atlanta, Ga.—I have had occasion lately to look up the statistics of inguinal hernia, and it seems to me that where one individual surgeon, whose veracity is unquestioned, has done 514 consecutive operations with one death and 5 per cent. of recurrences, he uses a pretty good method of procedure. Dr. Coley has had such results; and Dr. deGarmo's and Dr. Marcy's results are practically identical. They all use the same suture material—kangaroo tendon. My personal experience is practically limited to the use of kangaroo tendon for closing the deeper layers. I have used silk and catgut only a few times. I have never had suppuration follow the use of kangaroo tendon, except in three cases recently operated on in the Grady Hospital. I am sure that the infection in these cases was not due to the suture material. Unfortunately I had in my service at that time several cases of intense streptococcus infection. We did not wear gloves, and I do not believe it is possible to thoroughly sterilize hands that have been bathed in intensely infectious material, only a short time before the operation, by any known method. The external surface of the skin may be rendered sterile, but prolonged manipulation brings the infection from the deeper layers of the skin, and suppuration is the result. Another important point is the size and kind of kangaroo tendon used. If very large stiff kangaroo tendon, such as is sold by many dealers, is employed, trouble will result sooner or later in many instances. But if the small tendon from the young kangaroo is used it will be absorbed in a reasonable length of time, but still give sufficient support. Non-absorbable deep sutures give trouble in a certain proportion of cases. I have had to remove both silk and silver-wire sutures that had been buried for many months. I think silkworm gut much worse than either silk or silver wire.

DR. J. B. MURPHY, Chicago—I wish to mention a method of closing openings in diaphragmatic hernia, the same as I devised for a case of bullet wound, viz.: open the thorax posteriorly, by an osteoplastic flap of the chest wall, which allows a fine exposure of the convex surface of the diaphragm. The hernia is then reduced and the opening in the diaphragm closed with catgut sutures, the flap replaced and the air aspirated out of the pleural cavity. I am now in competition with my associate, Dr. Lee, as to who will get the best result. Dr. Lee is using the deep unabsorbable, subsequently withdrawn silkworm gut suture. His results have been beautiful. I am using Marcy's kangaroo tendon, and I am going to try to overcome him if I can.

DR. M. L. HARRIS, Chicago—Early infection is due to the introduction of germs at the time of the operation; late infection to the transmission of germs along the sutures from the skin to the deeper structures. In the buried absorbable sutures we have two difficulties: 1, the aseptic suppuration of Poppert; 2, the hyaline degeneration which occasionally occurs about absorbable sutures. While these conditions are not dangerous to the life of the patient, they do weaken the line of union. All methods which transplant the cord are objectionable, as they have been followed in a large percentage of the cases by atrophy of the testicle. The value of the silver-wire longitudinal suture has been demonstrated by the remarks made by most of the gentlemen. It secures the most perfect coaptation, it produces the least possible amount of connective tissue and hence the greatest strength of union. The cord should, when possible, be restored to its oblique position, as this gives, anatomically, the greatest strength to the abdominal wall.

DR. A. H. FERGUSON, Chicago—When this Temple of Hernia is complete, and when we are all gathered home to dedicate it, then we shall give distinction to the man who laid the first stone and the different stones! It is not looking for priority, but looking for that which fulfils indications that is stimulating us to bring forward the best methods for the radical cure of

hernia. The imbecilic assertion that a certain man does not do a semilunar incision with the idea of the hernia returning should not be laughed at. No one operates on a hernia with the idea of the hernia returning—it matters not what the incision is. The transplantation of the cord is bad. There is no possible reason for transplanting it, except that it fills a gap where the origin of the internal oblique muscle is deficient. If the origin of the oblique muscle is sutured where it belongs, then, there is no reason for raising the cord out of the bed. I have had bad results; I have had plastic inflammation of the testicle following atrophy and destruction of one testicle. That cord should be left alone. The recommendation of splitting the sheath of the rectus muscle and bringing it over is an excellent thing in certain cases—a small percentage—and Dr. Bloodgood, who invented that method, is not as sanguine of bringing it forward as the gynecologists are. It should be used when there is a deficiency, but not when the typical operation can be performed. The typical operation for the radical cure of hernia leaves all structures where they belong. It is surprising, the lack of knowledge as to the presence of the internal ring. It is only a small percentage when it is pushed downward. When you have tied off your sac you have the internal ring at the epigastric vessels, and almost invariably in normal cases; in sixty cases out of 100, you will find—that is the kind I operated on—that the internal ring, after tying the sac, is in its normal place, and then all you have to do is to restore the structures. The obliquity of the canal is restored by tying the sac. It is not necessary to bring the structures underneath the cord. There is another objection to that. There is neuralgia in the region of the hernia on account of the constriction of the nerve sometimes. When the cord is left in its bed, there is no neuralgia.

DR. R. HARVEY REED, Rock Springs, Wyo.—It seems to me that the papers and the discussion which we have heard this afternoon have developed this difficulty, if they have developed anything at all, that is, that it is absolutely necessary—it matters not what kind of suture you use, whether it is animal, silver, iron, silk, or silkworm gut. It is necessary to approximate the parts perfectly, it is necessary to have a complete and thorough blood-supply; it is necessary to get rid of your foreign material at the earliest possible moment. If you do not obtain this, you are going to have a foreign body which will, sooner or later, produce irritation, followed by suppuration, and the result of that operation is going to be a failure. Then it remains as to the character of the operation—the nature and the condition of the parts on which you are going to operate—as to which one of these particular sutures or methods of suturing is to be used, but you have to carry in your minds, distinctly and clearly, the principles that underlie the repair of wounds, and when you have done this, brought the parts to their proper place and held them there until Nature restores them, then your suture is of no further use. To get a suture that will do this is one of the most difficult matters to determine, because we may purchase from the very same manufacturer the same quality of catgut, as far as we are able to tell, and the result is different when sterilized in the same manner. You purchase the kangaroo tendon and you sterilize that as before, and one time will have union by first intention and the next time you will have suppuration. I have seen cases in which there was not vitality enough to have a foreign body absorbed, and others where the catgut is absorbed too soon; one instance I remember very distinctly, in which the kangaroo tendon was used when the sutures dissolved and were not absorbed, but remained there as gelatinous material, resembling melted glue.

DR. E. H. LEE, Chicago—I am pleased to hear that so many surgeons acknowledge that they have more or less trouble—more or less infection. At the present stage of modern surgery, I do not believe that anybody can say that he is master of aseptic surgery. It is impossible to say positively that you are going to operate "clean." During the college year of the College of Physicians and Surgeons, Chicago, Dr. Murphy and myself operated on several hundred cases at the West Side Hospital, and during this period of time I do not remember having seen infection in clean cases, this including several hernia, yet the time may come when we will have a series of infections; this can not be avoided. We can not always avoid the unpleasant complications which may follow an infection. It is for this reason that I have advised this method of suture.

DIPHTHERIA and scarlet fever are becoming quite prevalent in Chicago, especially since the opening of the schools. The health authorities say that the outbreak is a result of neglect of the school authorities, while the latter deny this.

FIBROSARCOMA OF ABDOMINAL WALL.

DESMOID FIBROMA BEGINNING IN POUPART'S LIGAMENT AND EXTENDING AROUND THE ILIAC VESSELS INTO THE PELVIS—REMOVAL WITH RESECTION OF THE ABDOMINAL WALL AND EXTENSIVE DISSECTION OF THE ILIAC VESSELS—REPAIR OF DEFECT IN ABDOMINAL WALL BY PLASTIC OPERATION*.

BY ALBERT I. BOUFFLEUR, B.S., M.D.

Assistant Professor of Operative Surgery, Rush Medical College; Chief Surgeon, Monroe Street Hospital; Attending Surgeon, Cook County Hospital; President International Association of Railway Surgeons, etc.

CHICAGO.

Tumors of the abdominal wall are comparatively rare, and of the varieties found, fibroma comprises nearly 90 per cent. Fibroma of this locality presents some peculiar features which make it a subject of much interest to the pathologist and to the surgeon. According to the collection of Guerrien, as given by Senn[1], nearly 93 per cent. occur in women. It usually follows childbed, and trauma is the common determining cause. The tumor usually begins in the fascia in the lower segment of the abdominal wall and particularly about the crest of the ilium and the sheath of the rectus muscle. It has a marked tendency to extend inward, and may readily be mistaken for an intra-abdominal growth.

This tumor presents certain characteristics which make it difficult of classification. The tumor itself presents the histologic characteristics of a fibroma, but it manifests a marked tendency to infiltrate adjacent tissues and to recur after enucleation, but complete excision usually effects a permanent cure. Some authors classify these tumors as fibrosarcomata, while others consider them as a peculiar variety of fibromata. Nélaton early recognized their peculiar features, as did Mueller, who, to distinguish them from simple fibromata, designated them as "desmoid fibromata." The term "desmoid" would, according to our standard dictionaries, indicate a tumor springing from a fascia or a ligament. Senn, in his work on tumors, again calls attention to the peculiar features of these fibromata, and advises the retention of the term "desmoid" as a special designation for those tumors which begin in the fascia of the abdominal wall, which present histologic structure resembling fibroma, and which seldom recur after total extirpation, but which manifest a tendency to infiltrate adjacent tissues and to return after simple enucleation. Many will readily recognize in this description some of the characteristics of sarcomata, and, I believe, all will agree that the tumor occupies a peculiar indefinite position on the border line between the benign and the malignant. It probably represents a transitional stage in the transformation of a fibroma into a sarcoma, and the degree of infiltration would seem to indicate the extent to which that transformation had progressed. While most desmoids occur in the abdominal wall, they may occur in other localities. Professor Le Count has informed me personally that he has examined two specimens of desmoid fibroma taken from the male breast and one from the neck.

The case upon which this report is based is as follows:

Miss ——, 20 years of age, a well-proportioned lady of nearly six feet in height, and weighing about 250 pounds, was brought to me by the family physician, Dr. J. A. Crowell of Iron Mountain, Mich., for examination.

---

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Pathology and Surgical Treatment of Tumors.

The following meager history was all that could be elicited. Between two and three years previously she had noticed a drawing sensation in the right side. Upon stooping, she experienced pain in the right inguinal region, which was also noticed after long walks, and especially during menstruation. Her principal, in fact only, marked pain was during menstruation, which was invariably referred to the right side of the lower abdomen. She had never been pregnant, and did not remember having sustained traumatism of the parts.

In about June, 1897, nine months previously, she first detected a swelling deep in the groin, and about two months later a physician examined it, at which time it was apparently the size of an orange. It had not been particularly painful upon manipulation, at any time. During the last three months there had been a rapid increase in the size of the swelling and the pain had also increased.

Upon inspection, a large protruding swelling could easily be observed, with the patient in either the erect or recumbent posture. By palpation we were able to determine a very firm, fixed swelling, apparently of the size of one's head, situated in the right inguinal region and projecting into the hypogastric region. The unusual obesity of the patient made the size of the swelling appear much larger than it actually was. The upper border was well defined, while the lower border seemed continuous with Poupart's ligament. The surface was generally smooth and regular, but a slight nodular irregularity was noted.

Vaginal examination was quite unsatisfactory, on account of the size of the patient and depth of the pelvis. A somewhat indefinite, irregular and tender swelling was detected in the right pelvis near the brim. No direct connection with the uterus could be determined at the time of the examination. Examination of the lower limbs failed to detect any disturbance of the circulation or nutrition of the corresponding one. No glandular enlargement was detectable anywhere.

Dr. Crowell had made a careful examination of the patient and had diagnosed the condition as one of probable sarcoma or fibroma. From the clinical history and examination we concurred in the diagnosis, and from the location and peculiar features of the case we believed that it was one of those quite rare cases of fibroma of the abdominal wall, classed as desmoid. From its primary location the tumor had begun in Poupart's ligament and gradually extended inward and upward, involving all the ligament and a large section of the abdominal wall, and completely filling the iliac fossa, with a portion projecting into the pelvis. The extreme thickness of the natural abdominal wall of this patient precluded a definite outline of the growth.

In view of the very rapid growth of the tumor within the preceding three months, the transformation of a fibroma into a sarcoma was suspected, while the size and attachments of the tumor impressed us with the great difficulties which would be encountered in its extirpation, and notwithstanding that there was a strong probability of our being unable to completely remove the tumor, we decided, in view of the perfect health of the patient and the absence of any edema or other evidence of disturbed circulation in the limb below, indicating involvement of the blood-vessel walls, that there was a possibility of its successful removal and that the patient should be given the benefit of the possibility.

The seriousness of the situation, which had already been presented by the attending physician, was again stated to the patient and relatives, and the operation decided upon. As the hospital was full at the time, the patient returned to her home and a week later we operated, with the assistance of Drs. Crowell, Wescott and Cameron, and with Drs. Carpenter, Lockett and Menistrana present. Schleich's anesthetic compound of ether, chloroform and benzin was skillfully administered by Dr. Cameron. Preparation of the operative field and the hands was thoroughly made by soap and brush, and alcohol only. No other chemical disinfection was made.

An incision 10 inches long was made over the most prominent part of the tumor parallel to Poupart's ligament and just below the lower abdominal fold. Upon dividing the exceedingly thick layer of adipose tissue, nodules of the tumor were observed, involving and projecting through the aponeurosis of the external oblique muscle from the indefinite creases of Poupart's ligament upward for about five inches. The projecting masses were smooth, dark in color, and very vascular. Having in mind that the principal element of success in the operative treatment of such tumors was the complete, even more than complete, removal, we made an incision vertically from the anterior superior spinous process and carried it in a curved direction above and around the tumor to the pubic spine. The whole thickness of the abdominal wall was incised. The attachments of the tumor seemed very slight below the muscles, and extirpation progressed rapidly.

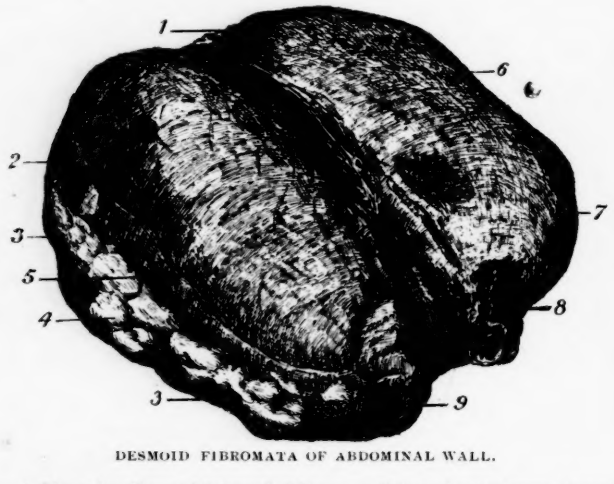
Our hopes for a rapid enucleation of the deeper portion were dispelled by encountering a large lobe of the tumor in the depth of the iliac fossa, which was of larger size than the superficial portion, and which was separated from it by a deep furrow corresponding to the location of the lower abdominal fold. The inner end of the tumor was firmly connected with the pubic bone at the attachment of Poupart's ligament, with which structure it was inseparably connected throughout its whole length. To remove the deeper portion of the tumor, it was found necessary to resect an oblong section—more than 5x6 inches—of the peritoneum, which was intimately attached to the inner lobe. The great thickness of the abdominal wall made separation of the deeper portions exceedingly difficult, and as the tumor dipped into the pelvis the dangers of a blind dissection can readily be appreciated. It was impossible to view the deeper parts of the wound with the tumor *in situ*, and when the tumor was elevated the femoral pulsation would cease, which confirmed our fear that it surrounded the vessels and that enucleation was impossible. As our attempt at its removal *en masse* was unsafe, and, as I believe, impossible, a horizontal section was made, and the greater part of the tumor, with all of Poupart's ligament and part of the fascia lata was removed. Fig. 1 shows the outline of the tumor and its relation to Poupart's and the round ligaments, and to the peritoneum.

Upon investigation we found that the tumor had extended along the iliac fascia and that the lower part of the iliac fascia and the outer part of the right broad ligament were occupied by the remaining portion of the tumor. The iliac vessels were completely surrounded by the tumor for a distance of five inches. From the soft, friable and vascular character of the tissues remaining we feared that the tumor was no longer a simple fibroma, but instead a more rapidly growing sarcoma. From an operative standpoint it was also evident that the difficulties of the operation had only begun. The complete removal of the tumor was considered by those present as practically impossible, and the danger of

damaging the vessels was so imminent in a wound of such great depth, that one would have been justified in abandoning the attempt. With the conviction, however, that the growth would return, unless completely removed, we decided to continue the extirpation as long as the patient's condition would permit. We accordingly rapidly dissected away the iliac part of the tumor including the iliac fascia, and began the tedious work of dissecting out the iliac artery and vein, whose walls were infiltrated throughout their whole extent by the tumor. You will recall the absence of any circulatory disturbance in the record of the examination, which must be accounted for by the fact that the lumen of the vessels had not been encroached upon.

The room in which we operated was lighted by low south exposure windows, and it was necessary to turn the patient on her side, and to allow the sunlight to fall directly into the wound to light up its deepest parts. While rapid completion of the operation was desirable, it was, as you will readily appreciate, absolutely impossible and palpably unsafe under these circumstances.

We succeeded in removing every particle of the tumor, and in doing so it was necessary to remove considerable of the external coat of the external iliac artery throughout nearly its whole length. Only a slight hemorrhage was encountered, and that was due to the necessary division of the circumflex iliac vein and the small arterial branches to the psoas muscle, as we had previously ligated the internal epigastric and internal circumflex iliac arteries.



DESMOID FIBROMATA OF ABDOMINAL WALL.

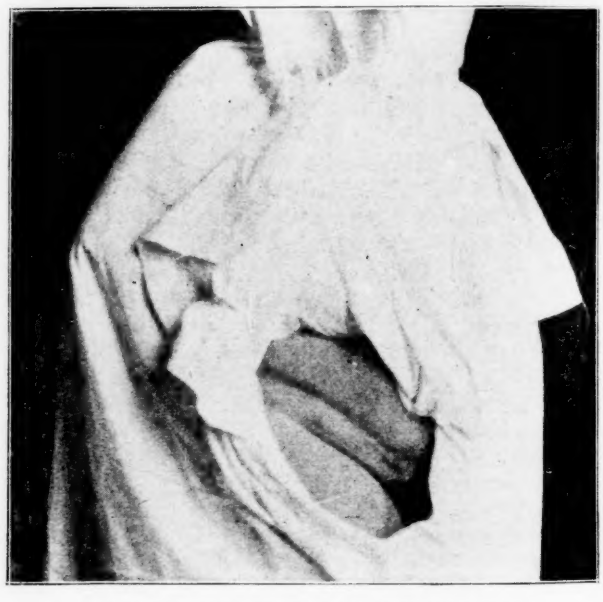
1. Muscular fibers of internal oblique. 2. Point of attachment to ant. superior iliac spine. 3. Poupart's ligament, attenuated. 4. Fat in groin. 5. Cut edge of aponeurosis of ext. oblique. 6. Dup. lobe of femur partially curved by peritoneum. 7. Portion of femur projecting into pelvis. 8. Round ligament. 9. Attachment of Poupart's ligament to spine of pubes.

The ovary of the right side was found to be large and to contain one cyst the size of a small hen's egg. As the operation wound was already of startling size, we did not care to add any additional and avoidable elements of danger to the case. The condition of the ovary would certainly have justified its removal, but under the circumstances I believe its being left alone was the best surgery.

With the tumor removed and an immense excavation in the side extending down into the broad ligament and presenting the iliac fossa and Scarpa's triangle as one space, the last difficulty was encountered—how to close the large defect in the abdominal wall. We did not have time for meditation and the formulation of any elaborate method of closure, and, therefore, decided to simply follow the same principles as I do in herniotomy: 1, close the peritoneum; 2, restore muscular continuity; 3, secure tendinous or aponeurotic support; and 4, close the skin over the deeper structures, but not to utilize it in any way as a supporting element in the closure of the defect, nor to include it in the deep sutures.

The peritoneum was closed from the side of the bladder to near the crest of the ilium. While the closure in the pelvis below the vessels was difficult, the great protection to the dangers of a possible infection made it seem imperative to close it absolutely. This procedure transferred the iliac and part of the pelvic fossa from intraperitoneal to extraperitoneal cavities. As a large resection of the muscles of the abdominal wall had been made, we split the fibers of the rectus abdominalis and the sartorious and sutured them across the defect, connecting them externally with the divided internal oblique.

To fortify this delicate muscular layer I split the remaining aponeurosis of the external oblique parallel to and about four inches above the line of resection and slid it downward so that its lower edge occupied the position of the removed Poupart's ligament, and fixed it there by sutures. This gave us normal muscular support without aponeurosis of the external oblique above and artificial muscular support with normal aponeurotic support below. In addition to these elements of support we calculated that the large cavity would be filled



DESMOID FIBROMA, RESULT OF PLASTIC OPERATION.

with scar tissue which would directly support the abbreviated peritoneal wall and would also lessen the pressure on the overlying support which we had constructed. The skin was sutured and a gauze drain inserted, to be left for two days.

The wound healed promptly within ten days. The patient maintained the recumbent posture for four weeks, and wore an abdominal support for six months. The result has been much better than we anticipated; in fact it is absolutely perfect, both as to contour and as to support.

I examined the patient three months after the operation and could find no return of the tumor and absolutely no evidence of a ventral hernia or any weakness of the abdominal wall. When the patient stands up now there is no deviation from the normal contour noticeable, and even the scar is practically out of sight in the abdominal

fold. Lateral exposure also fails to show any bulging of the abdominal wall. Fig. 2 shows perfect Poupart's fold and appearance of scar on raising of pendulous part of abdominal wall. The cyst of the ovary has practically disappeared

The absence of the return of the tumor within fifteen months warrants the conclusion that the radical operative treatment was perfectly successful, and the absence of a ventral hernia evidences the fact that even extensive defects of the abdominal wall can be successfully repaired by plastic utilization of the remaining normal structures.

Microscopic examination of the various portions of the tumor have kindly been made by Profesor Le Count, who confirmed the clinical diagnosis of desmoid fibroma, and submitted the following histologic examination: "From the section of the entire tumor, which was cut in a fresh condition, a number of small pieces were selected. These exhibited small variations in color and consistency, but histologically were all found to contain essentially the same features, viz., well-fibrillated cells with scanty amount of intercellular substance. Such blood-vessels as were encountered resembled sinuses with atypical hyaline walls. The above-mentioned variations were judged to be due to difference in the amount of blood and to edema."

CHRONIC VOLVULUS PRODUCED BY ABSORPTION OF A MYOMATOUS TUMOR AFTER SALPINGO-OOPHORECTOMY; A CLINICAL NOTE.*

BY JAMES F. W. ROSS, M. D.
TORONTO, ONT.

I intend to place on record my experience with a rather rare disease, a disease that has not been much written of and certainly is rarely seen. It is not my intention to discuss the subject of acute volvulus nor of acute intestinal obstruction, but the subject of chronic volvulus, chronic intestinal obstruction lasting over a considerable period of time, an obstruction partial, not complete, and an obstruction that may at any time become complete, and set up symptoms of acute intestinal obstruction.

I find a record in the *British Medical Journal,* of a case reported to the Manchester Pathological Society, by Dr. Ashby. He showed the pathologic specimens removed from the abdomen of a man, 19 years of age, who had been subject to attacks of vomiting for two or three weeks from the time of his birth. He had frequently vomited large quantities of fluid during a single night. The exhaustion of these vomiting attacks was sometimes very great, and appeared to be almost fatal. Errors of diet seemed to invariably bring on the attack. After one of these attacks of vomiting he had acute obstruction of the bowels, peritonitis supervened, and he died. The post-mortem examination showed the immediate cause of death to be an acute volvulus involving nearly the whole of the small intestine, the last few feet of the ilium being twisted from right to left around the upper portion of the jejunum below its junction with the duodenum, the latter being twisted on itself in axis. The stomach was found immensely distended and hypertrophied; the duodenum, also dilated, like a second stomach. The lower part of the duodenum and the upper part of the jejunum were surrounded and in part constricted in front by fibrous adhesions, with some cretaceous deposit, the result of old—probably fetal—peritonitis. About six inches were thus bound down. There was no complete obstruction, as a forefinger could be readily passed through the narrowest part.

We have here a case of chronic volvulus producing an obstruction of the bowels lasting over a number of years. A little extra twist may at any time make such a volvulus acutely felt so that the result may be disastrous to the patient. I have two cases to record, one of which suffered from volvulus on several previous occasions, and was operated on by me during an attack of acute volvulus, made a good recovery and has never since had a recurrence. The second case is one to which I wish especially to draw attention:

CASE No. 1.—Mr. F. A. G., aged 35, was seen by me in consultation with his physician, Dr. Webster of Toronto, on Feb. 15, 1897. I diagnosed the case as one of acute volvulus. The diagnosis was based on the peculiar appearance of the abdomen. Beneath its walls could be distinctly noticed a tense, curved mass, looking like a piece of bologna sausage hanging over a line. I learned on questioning the patient that he had on previous occasions suffered with similar attacks, but that after the administration of high enemeta he had obtained relief. In this attack he stated that he had been taken sick five days before I saw him. While lifting a box he felt a sudden pain in the abdomen. The doctor was not called in until the next morning. No movement of the bowels could be obtained. Purgatives were administered, but were ineffectual. Two professional nurses endeavored to give enemata but could not get the water to pass up beyond the rectum, owing to some obstruction. A small amount of blood and slime came away per enema. The doctor thought the case might be one of intussusception, but I differed from him, owing to the peculiar contour of the abdomen. I advised immediate operation, and operated in the afternoon of the same day.

The abdomen was opened in the median line, an enormously distended and very much lengthened sigmoid flexure popped out of the incision and protruded from the abdomen from twelve to sixteen inches, and stayed straight up like the finger of a glove blown up with air. It appeared to be almost as large as a man's arm at the curve of the elbow with the point of the elbow upward. I turned the volvulus from left to right and undid two twists. I then had an assistant pass up a rectal tube, guided by my hands above, through the untwisted opening and the bowel was thoroughly washed out with water. An enormous collection of seeds of different kinds, pieces of undigested food, grape skins, and pieces of corn were in this way dislodged. After the bowel had been thoroughly emptied it was placed back in the abdominal cavity. I then fastened the left side of the mesentery of the abnormally lengthened bowel, to the peritoneum in front on the left side and the large muscular band of the intestine to the peritoneum on the right side of the abdomen. The abdominal wound was then closed. The patient made an uninterrupted recovery, has remained in good health, and has never had any recurrence of his former attack.

CASE No. 2.—Miss C. was referred to me in October 1894. On examination I found her suffering from a fibroid tumor growing in the left broad ligament, and advised operation, not knowing before operation whether the tumor could be removed or not.

At the Pavilion of the Toronto General Hospital, in the presence of a number of medical men, I opened the abdomen in the median line, found the growth growing in the left broad ligament and determined that it could

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

not be removed with any degree of safety. Both ovaries and tubes were therefore taken out. The patient made an uninterrupted recovery and went home but continued to menstruate. Her health was good for a year or more. The menstrual flow became excessive at times. She suffered considerably from backache. The chief symptoms, however, that subsequently set in, appeared to be those of indigestion produced by pressure on the rectum by the tumor. I made an examination and found, to my surprise, that the tumor had increased in size. I felt disappointed, because a large percentage of these cases have been entirely cured in my hands by removal of the ovaries. I was forced, therefore, to the conclusion that this was one of the unsuccessful cases. She complained of a continual aching in the abdomen, with a continual pain, chiefly toward the right side. I watched her carefully for a length of time and found slight elevation of temperature. She came to my office at intervals for a period of about three months. The tumor still remained as I had first found it, and the patient was evidently suffering from more pain than she could be expected to bear. She therefore determined to have the tumor removed at all hazards. I thought I knew what to expect and consequently held back, but eventually operation was forced on me.

On Jan. 18, 1899, I operated on her, in the Pavilion of the Toronto General Hospital. Dr. A. H. Wright of Toronto assisted me. The abdomen was opened in the median line and the old scar was entirely removed. A large tumor could be made out, filling the pelvis; it looked peculiar. I had never seen a tumor look just as this one did. It did not appear to be a fibroid tumor, but looked more like the tumor found when dealing with a suppurating ovary. After more careful inspection I concluded that it must be distended intestine. Even supposing the tumor to be distended intestine the case was not at all clear. The patient's bowels had moved several times in response to the usual purgative given before celiotomy. There were no definite evidences of obstruction of the bowels before operation. On feeling around in the left loin, the descending colon was encountered and was found filled with scybalous masses. These scybalous masses could not be made out by external palpation. They were found to extend onward into the transverse and descending colon. A great deal of difficulty was experienced in isolating the bowel, owing to the adhesions of one coil to the other. The operation was a prolonged one. It was found impossible to get anything up with which to anastomose any superior portion of the intestine. The tumor filling the pelvis proved to be nothing but a sigmoid or omega flexure packed tightly with fecal matter and half twisted on the narrowing portion of the omega flexure. A half turn of this flexure caused all the trouble. A full turn would no doubt have produced acute volvulus from which the patient must have lost her life long before. The finger could with difficulty be made to reach and pass up through the rectum through the constricted portion. The masses of feces were almost as hard as rocks. The tip of the finger passed through the anus would barely enter at the site of the twist. I separated the small intestines from around the mass, isolated the coils of large intestine, but owing to the shock could do nothing more. The patient left the table with a pulse of 140. Every effort was made to relieve her, but without avail, and she died next morning.

I regret the termination of the case, but can scarcely see that I could have done otherwise than I did. The condition could only be made out after a great amount of searching, and this searching could only be carried out by breaking down dense adhesions. I fear that some portion of the bowel may have been torn into and that this contamination of the peritoneum brought about the fatal issue. I have never seen such an amount of fecal matter collected in any patient and have never seen fecal matter attain such a degree of hardness as it did in this case. The tumor of the uterus was found to have dwindled down until it remained about the size of a small orange. The only theory I can offer as an explanation of the condition is that the tumor filling the left broad ligament diminished, after the removal of the ovaries, from the size of a man's head down to that of an orange, and that during this diminution, the rectum, which is so closely attached to these tumors growing in the left broad ligament, was stretched and its mesentery lengthened, and that after the tumor had undergone a reduction in size, the bowel, as a consequence of this increase in length of bowel and corresponding mesentery, was allowed to take a half turn on itself.

Since meeting with this case I have come to the conclusion that there is one other condition that may simulate fibroid tumor and may deceive even the trained finger, and that condition is a collection of scybalous masses in a distended and partially twisted intestine, or in other words, a chronic volvulus of the omega flexure.

In November, 1898, I received a letter from the doctor in the country into whose hands the patient had recently fallen. He writes me as follows: "Dear Doctor:—I write you regarding Miss C., on whom you operated two or three years ago (in reality four years) in the General Hospital, for some ovarian trouble. She has been in very poor health for the past few months and now has some growth in the uterus on which an operation is necessary." To the letter I replied, "Your patient called yesterday. I believe you are in error regarding the nature of the trouble and, as a consequence, there must be some variance in our opinions. On examination now one would naturally think that our patient is suffering from a uterine tumor. At the operation four years ago I found that she had a fibroid tumor growing from the left broad ligament and, as a consequence, causing fixation of the tumor. The uterus was then over to the right side and somewhat elongated. Both ovaries were removed, as the operation of enucleation of such a tumor is accompanied by such a high mortality. I hoped at the time that oöphorectomy would put an end to the growth of the tumor and that its presence would not give rise to much subsequent suffering. The whole question to be decided on is: Is the amount of suffering present great enough to demand interference, and the removal of the growth at all hazards? In some of these cases, after the removal of the ovaries menstruation continues for four or five years and then an early menopause is induced. If this patient demands operation I am prepared to perform it. Her recovery after removal of the growth would be complete and satisfactory."

After the operation had been carried out I wrote to the Doctor again as follows: "We have both been entirely mistaken in the case, as well we might be. The tumor has almost disappeared. After its diminution the omega or sigmoid flexure of the rectum must have taken a half twist on itself and have produced a volvulus. This volvulus was not sufficiently twisted to give rise to symptoms of intestinal obstruction nor even to send the patient to bed, but it constricted the intestine sufficiently to cause an enormous accumulation of scybalous masses above. The scybalous masses filled the twisted omega flexure of the rectum and were found away up in the

transverse and the ascending colon as far as the ileo-cecal valve. I never felt such hardened fecal matter before; it felt like pieces of broken stone inside the intestine. I passed a finger up into the rectum while the patient was thoroughly anesthetized and with the hand in the abdomen and the finger in the rectum I was able to make out the constricted portion. The tip of the finger would just barely enter at the site of the twist. After thoroughly exploring I separated the small intestines from their adhesions but could do nothing more. The patient's pulse by this time had reached 140. I am now in hopes that I will be able, should she survive, to wash out the scybalous masses. If this is impossible colotomy will be the only other recourse. The mass you felt on examination was fecal matter, the two lumps that slid about above and that felt like pedunculated fibroids growing from the main body of the tumor were pieces of hardened fecal matter in the bowel."

I give the quotations at length because the letters themselves give a better picture of the progress and circumstances surrounding the case than a bare recital of facts.

There is only one kind of a man whose fore-sight is as good as his hindsight, and that man is a fool. We can all learn by the mistakes of others, and it is easy to suggest what might have been done in a given case, but it is difficult for us to say exactly what we ourselves would have done had we been dealing with that given case. I think my finger has been fairly well educated by a number of years of experience, and I feel fairly competent to give an opinion regarding the nature of a pelvic tumor.

I have elsewhere published a case treated with electricity for two years on the supposition that the patient was suffering from a fibroid tumor, while, in reality, on performing an abdominal operation I removed a pair of pus-tubes with walls solid and thickened and cartilaginous and almost two inches in diameter. Among the hundreds of pus-tubes I have removed I have never seen another pair exactly like these. In lecturing to my class I have always claimed that one of the diagnostic features of a fibroid tumor was the separate nodules so frequently found more readily movable than in the main mass of the tumor. These nodules were noted in the case under discussion. In the days when electricity as a cure for fibroid tumors was absorbing the attention of a certain portion of the profession and a large portion of the public, it was no uncommon thing to hear of the complete subsidence of a pelvic tumor under the magic influence of the electric current. When a few of us ventured to suggest that many of these masses were not fibroid tumors, but that they were entirely inflammatory, we were supposed to be using this as unfair argument in the discussion of the question. But when one has lived to mistake a collection of fecal matter in the distended bowel of a patient having regular evacuations, it is easy to understand how many of these fibroid tumors may have been nothing but hardened intra-intestinal contents.

Time has not permitted me to make a very thorough search through the medical literature for information regarding this peculiar disease, chronic volvulus. In the slight search that I have made I find nothing except the reference given at the beginning of my remarks. There can be no doubt that a half turn of the intestine on the axis of its mesentery may produce chronic volvulus. Perhaps many cases of troublesome constipation may be explained in this way. It is evident that chronic volvulus may exist and the patient may live for years with the condition, but not without discomfort. It is also evident that chronic volvulus may be cured by operation and the danger of acute volvulus may be thus avoided.

From the three cases referred to it is evident that chronic volvulus may occur in either the small or large intestine. When the omega flexure of the rectum is very fully developed, it is easy to understand how it may be twisted where the two branches of the omega approximate one another. That acute volvulus occurs at this spot more frequently than anywhere else is not to be wondered at. This elongated and apparently over-developed omega flexure seems to be a congenital condition. In the case of the man successfully operated on, I was amazed to find the mesentery of the omega flexure and the omega flexure itself of such enormous dimensions. When an attack of volvulus has occurred and recovery has taken place after a resort to high enemata, it seems to me that the abdomen should be opened and the bowels should be so fixed that volvulus cannot recur. It is only in this way that the patient can be placed in a safe condition. A resection of intestine might be done so as to shorten the portion of intestine inflicted with a long mesentery, but this procedure must necessarily be somewhat severe and scarcely justifiable if the minor measure carried out in my case will answer the purpose.

There are cases of volvulus of Meckel's diverticulum occurring in infants on record. While I have never yet met with such a case, I have recently had a peculiar experience in connection with Meckel's diverticulum. An infant was born and no fecal matter passed per anum. A few hours after birth I saw the child and it was evidently in great pain. Vomiting had set in and was persistent, so I opened the abdomen and found a coil of gangrenous intestine forced through under a band produced by adhesion of a partially obliterated Meckel's diverticulum, to a spot of the peritoneum near the spine. I presume that the bowel had been forced through under this band as a consequence of the pressure exerted during childbirth. There were evidences of acute peritonitis, the abdomen being filled with a seropurulent collection of fluid. The infant, but a few hours old, and already greatly shocked, soon succumbed.

DATA CONCERNING DEFORMITIES OF EXTRAUTERINE GESTATION.*

BY ANDREW F. CURRIER, M.D.
NEW YORK CITY.

The subject is one which, at first thought, would seem to be narrow in its scope, and yet the proper apprehension of it involves the examination of many disconnected reports of cases of extrauterine gestation, some of which devote no attention at all to the consideration of the physical condition of the fetus, while in others the details are aggravatingly meager. The deformities which are alluded to are in almost all cases, if not in all, consequences of the latter months of fetal development, since in those fetuses which are removed during the first half of gestation I have observed no record of deformity, and in those which I have examined personally, the upper and lower extremities have appeared to be normal. The subject derives importance from the fact that the number of fetuses developed outside the uterus and born alive by extraction through an abdominal incision, is not inconsiderable, and this number is increasing, year by year, as the means of diagnosis and

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

surgical technic become more perfect. This means that the consideration for the welfare of those beings who have had the misfortune to be developed under exceptionally unfavorable conditions will increase in the future, and that they will probably have better opportunities for existence than have been conceded to them heretofore.

The sum of our efforts in the past has been to endeavor to extricate the mother from a plight which is most perilous, even under the most favorable conditions, and we have all been more or less prejudiced by the fact that most of the children in these cases have been born dead, or have died within a few hours or days, or have been deformed to a greater or less extent. The largest tabulated collection of cases in which a living child has been born through an abdominal incision, in the condition which is under consideration, has been made by the late Dr. R. P. Harris, whose table[1] contains details of 77 operations performed between the years of 1809 and 1896. From his well-known persistency and accuracy in gathering statistics, we may regard this table as fairly reliable, and as a basis from which certain inferences may fairly be drawn. Unfortunately he has made no statement in regard to the physical condition of the children referred to in his table. In another communication, which bears on this subject, he has stated, however, that only 4 children had survived at the time when his statement was published, 2 of them being then 4 years of age, 1 being 5, while 1 was 7½ years old. One of these children, as I infer, is a girl, delivered by Savage of Birmingham, and was 14½ years of age, and in good health when last heard from. The question as to the mortality in this class of cases is therefore, up to the present time, not a very brilliant one.

Champneys[2] has collected a series of 19 cases of operations in which the child was born alive. The immediate mortality as to the fetus was 11 cases—61.1 per cent. There was deformity in 4 cases. The details of those who survived among his cases are as follows:

Operator.	Date.	Period of gestat'n.	Condition.	Duration of life.
Heim	1813	Term.	Healthy boy.	Not stated.
Hauff	1842	35 wks.	Deformed limbs.	Fifty hours.
Jessopp	1877	34 wks.	Normal.	11 mos. Death from croup.
Spiegelberg	1876	Term.	Normal.	3 mos. Death from inanition.
Tait	1880	Term.	Normal.	Well when reported at 7 months.
Schroeder	1879	34½ wks.	Normal.	Well at 6 months.
Wilson	1880	39 wks.	Normal.	Well at 3 months.
Litzmann	1880	39½ wks.	Deformed by pressure.	Fifteen minutes.

The following cases in which deformity of the child was observed at birth have been collected from various sources.

1. Champneys[2]: The child was a seven-months fetus when born, was fifteen inches in length, weighed 2 pounds 10 ounces, and had not been dead very long when delivered. Its face was compressed, the nose was flattened, and the head deformed. Champneys' remarks concerning such cases are as follows: "The number of children which are ill-developed, sickly or deformed in cases of extrauterine gestation is so large that the value of the child's life is much reduced and appears to be insufficient to justify additional risk to the mother."

2. John Williams[3]: The child was mature, was dead when born, and was deformed by pressure.

3. Olshausen[4]: The child was mature, was much deformed, and died 1½ hours after birth.

4. Rein[5]: The child was born at the thirty-seventh week, weighed 6 pounds, was asymmetric, but was living and well in 1892, being then 2 years old.

5. J. W. Taylor[6]: The child was mature at birth, weighed 7 pounds; the head was asymmetric, the larynx and neck depressed; the right foot had talipes-calcaneo-valgus; the condyles of the femora were prominent. It died from convulsions, at 6 months.

6. Werder[7]: The child was born in 1894, was mature, and had asymmetry of the head and face, clubfeet, ulceration from pressure of the elbow on the left side of the thorax, and died on the fifth day.

7. Martin[8]: The child was born in 1881, with encephalocele and clubfeet. It died soon after birth.

8. Frommel[9]: The child was mature at birth (1891), and had a deep impression on the left parietal bone from pressure on the brim of the pelvis. It also had a contraction of the right sternomastoid muscle, and died in two weeks, from gastro-intestinal catarrh.

9. Pinard[10]: The child was born in 1898, at 7½ months. It had asymmetry of the face, which disappeared. It was still living when the report was made.

10. Guéniot[11]: The child was born alive, weighed 6 pounds at birth, but died in a few days with abscesses of the neck. Infection had probably been acquired from the placenta, which was attached to the intestine.

The following cases have been collected of children who were not deformed when born and who lived for varying periods:

1. Hardie[12]: This child was born at the eighth month, in 1896, and lived six hours.

2. Treub[13]: The child was born in 1887, three weeks before term, and weighed four pounds; a year later he was a strong healthy boy.

3. Lusk[14]: The child was born in 1893, at the sixth month, and lived twenty-four hours.

4. Cullingworth[15]: The child was born in 1894, at the end of the eighth month, weighed five pounds, and died at nine months, from poverty and neglect.

5. Eastman[16]: The child was born at the eighth month, in 1888, weighed four pounds, and died in 8½ months, from pneumonia.

6. Breisky[17]: The child was born in 1887, at term, weighed 5 pounds, and died in three weeks.

7. C. Braun[18]: The child was born at term, in 1889, weighed 6 pounds, and died in seventy-two hours, from lobular pneumonia.

Werder[19] has made an interesting study of this subject, that is, from the standpoint of the fetus, and has collected forty cases, some of which have been mentioned in the foregoing pages. Of the forty children who were born alive, 18 died within one week from birth; 5 within 1 month; 1 at 6 months, of bronchopneumonia; 1 at 7 months, of diarrhea; 1 at 11 months of croup; 1 at 11 months, from an unknown cause; 1 at 18 months, from cholera infantum. Of the remainder, 5 lived after the operation, but their subsequent history is not known; 1 was strong and healthy at 3 weeks; 1 was well at 6 months; 1 was well when last heard from; 2 were living and well at 1 year; 2 were living and well at 2 years; 1 was well at 7 years, and 1 was well at 14½ years.

An examination of the foregoing cases shows that the cause of deformity was pressure on the hard portions of the pelvis and abdominal walls, due to an absence of amniotic fluid. The fetus in such cases usually lies free in the abdominal cavity, the membranes which at first enveloped it having been digested by the peritoneal secretion. The tissues of the fetus are therefore without their usual protection, hence those parts which are most in motion and most firm are most likely to show the deleterious effects of pressure. No remedy is at present

apparent for such mishaps prior to birth. After birth, should the child survive, the asymmetry of the head and face is likely to disappear the same as in children with large heads and who are delivered through narrow pelves. The deformities of the lower extremities are susceptible of orthopedic treatment the same as are those born by the natural passages.

Does not the study of these cases teach us that the time has come when more regard should be paid for the welfare of these unfortunate beings who may, in many instances perhaps, be spared for useful existence by greater consideration and care during the early period of life?

BIBLIOGRAPHY.

1. Kelley: Operative Gynecology, pp. 458 459.
2. Trans. Obstet. Soc., London, xxix, 459.
3. Ibid. 482.
4. Deutsche Med. Woch., 1890, 171.
5. Centralbl. f. Gyn., 50 1892.
6. Trans. Obstet. Soc., London, 1891, p. 15.
7. Med. Record, N. Y., xlvi, 641.
8. Werder: Ibid.
9. Med. and Surg. Reporter, lxvi, 683.
10. La Sem. Med., March 15, 1899, p. 85
11. Ibid.
12. British Med. Jour., xii, 233.
13. Zeitsch. f. Gebürtsch. u. Gyn., xv, 1888, 384.
14. N. Y. Jour. of Gyn. and Obstet., July, 1893.
15. British Med. Jour., 1894, ii, 1422.
16. Med. Record, N. Y., xlvi, 641.
17. Ibid.
18. Archiv. f. Gyn., ii, 1890.
19. Med. Record, N. Y., xlvi, 641.

ASSOCIATION OF PELVIC DISEASES AND INSANITY IN WOMEN, AND THE INFLUENCE OF TREATMENT OF THE LOCAL DISEASE UPON THE MENTAL CONDITION.*

BY H. A. TOMLINSON, M.D.
SUPERINTENDENT ST. PETER STATE HOSPITAL.
AND MARY E. BASSETT, M.D.
ASSISTANT PHYSICIAN ST. PETER STATE HOSPITAL.
ST. PETER, MINN.

In January, 1894, there was begun in the St. Peter State Hospital a systematic inquiry into the relation between insanity in our women patients and whatever disturbance of function or disease of the generative organs there might be present. In order to accomplish this purpose, a careful record was made of the incidents of the menstrual period in each case; with reference to the amount and character of the discharge, the length of the period, the presence or absence of pain, headache, or general disturbance; and finally as to whether there was any change or exaggeration of the mental disturbance during the period. Then each patient was subjected to a careful physical examination and a record made of the conditions found. In all of the cases where pelvic disease was present and apparent, and in those cases in which there was menstrual disorder, a systematic study of the conditions found, in relation with the mental disease, was made, and where any doubt existed a competent surgeon was called in to give us the benefit of his advice. It was soon found that the weak point in our investigation was the absence of a complete and reliable history of the case before coming to the hospital. In the meantime all of the women suffering from menstrual disorder or pelvic disease were placed on appropriate treatment, and in those cases in which operative interference was indicated the necessary operation was done, whenever the consent of the family could be obtained. This special treatment was carried out without regard to the apparent relation between the pelvic disorder and the insanity of the woman, as we believed that the most reliable evidence of the utility of this special work would be furnished by the careful study and treatment of all cases, rather than those alone whose condition suggested an apparent relation between the insanity and the disease of the generative organs.

This preliminary study included the 450 women then in the Hospital and those admitted up to Jan. 1, 1897. The first result of our investigation was the statistical evidence furnished by the observation of the effect of the menstrual molimen on the mental condition of the patient. In only ten out of the 450 women was there any exaggeration of the mental disturbance during the menstrual period, but 50 per cent. of all of the women had more or less physical discomfort during the period. Profuse or scanty flow with headache was the most common departure from the normal, and only a very small number suffered from pain; while the ten cases in which there was an apparent relation between the menstrual period and exaggeration of the mental disturbance; only two of the patients complained of physical discomfort at all. Among the married women, 58 per cent. had some pathologic condition in the pelvis, dependent on labor and its accidents. The commonest of these were tears of the perineum and cervix; next came subinvolution with endometritis, then disease of the tubes and ovaries. There were only two cases of uterine fibroma and two of cancer. One of the cancer cases was decided to be inoperable. The woman became cachectic, emaciated and was apparently going to die. However, she rallied, gained in weight, the discharge became less profuse and fetid, she did not complain of discomfort, lived in the Hospital for eighteen months, then left somewhat improved mentally and in fair physical health. We heard from her about one year afterward and she was still in fair physical health. Two of the women in whom there was apparently a direct relation between the menstrual disorder and mental disturbance, also presented evidence of pelvic disease. Both were young and unmarried. One had been in the hospital for five years, having been committed a few weeks after landing in this country from Germany. The other was a clandestine prostitute and had had gonorrhea, from the infection of which she had developed a double salpingitis and her ovaries were cystic. The former had sclerotic ovaries and suffered from severe dysmenorrhea. In both cases an operation was done with the definite object of trying to modify the mental condition by removing a constant source of irritation in the pelvis. The uterus and ovaries were removed in both cases; but unfortunately the result of the operation was not satisfactory and there was not only no improvement in the mental condition, but a distinct increase of disturbance after the direct effect of the surgical procedure had subsided, and of course the more rapid determination of dementia followed the artificial establishment of the menopause. The most unexpected result of our investigation was the finding of so large a number of women with serious pelvic disease, in whom there was not only no apparent relation between the pelvic disease and the mental disturbance, but there was no complaint or evidence of physical discomfort. Many of these women have since been operated on and all needing local treatment received it. The general result has been a more or less well-marked improve-

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ment in the physical condition of those treated. In some there has been a slight amelioration of the excitement or irritability present, but in the majority of the cases the relief of the pelvic disorder has been practically without influence on the mental condition of the women.

I now turn to the consideration of the more interesting because more carefully studied recent cases. From Jan. 1, 1897, to Jan. 1, 1899, there were admitted, subjected to examination, and treatment so far as was

MAJOR OPERATIONS.

Case No.	Mental Condition.	Pelvic Condition.	Nature of Operation.	RESULT OF OPERATION.	
				Mentally.	Physically.
1	Periodic excitement.	Dysmenorrhea, ovarian pain, cystic and sclerosed ovaries.	Removal of ovaries and tubes.	Unimproved.	Pelvic symptoms relieved by operation.
2	Chronic excitement.	Dysmenorrhea, salpingitis, cystic ovaries.	Removal of tubes and ovaries.	Unimproved.	Pelvic symptoms relieved by operation.
3	Chronic excitement.	Laceration of perineum and prolapse of fiibroid uterus. Did not complain of any pain or discomfort.	Vaginal hysterectomy and perinorrhaphy.	Unimproved.	Cured.
4	Chronic delusional insanity.	Subinvolution, prolapse, retroversion and adhesions of uterus. No direct symptoms.	Removal of right ovary and tube, ventrosuspension of uterus.	Improved.	Cured.
5	Acute depression.	Lacerated cervix, endometritis.	Amputation of cervix and curettement.	Improved.	Cured.
6	Chronic delusional insanity.	Laceration of cervix and perineum, endometritis.	Curettement, repair of cervix and perineum.	Unimproved.	Improved.
7	Chronic delusional insanity.	Retrodisplacement of uterus, adherent, laceration of perineum.	Ventrosuspension of uterus, repair of perineum.	Unimproved.	Improved.
8	Chronic delusional insanity.	Subinvolution, uterus retroverted and adherent cystic ovaries.	Removal of uterus and appendages.	Unimproved.	Cured.
9	Dementia.	Fibroid uterus.	Abdominal hysterectomy.	Unimproved.	Cured.
10	Chronic depression.	Retroverted, adherent uterus, cystic ovary.	Ventrosuspension of uterus. Removal of right ovary.	Improved.	Cured.
11	Confusional insanity.	Endometritis.	Curettement.	Improved.	Cured.
12	Circular insanity.	Laceration of perineum. Endometritis.	Curettement, perinorraphy.	Improved.	Improved.
13	Chronic delusional insanity.	Retroverted and adherent uterus, laceration of perineum.	Ventrosuspension of uterus, perinorrhaphy.	Unimproved.	Improved.
14	Chronic delusional insanity.	Retroverted and adherent uterus, cystic ovaries, laceration of perineum.	Removal of ovaries and tubes, ventrosuspension of uterus, perinorrhaphy.	Unimproved.	Cured.
15	Circular insanity.	Retroverted and adherent uterus.	Alexander's operation.	Unimproved.	Cured.
16	Chronic delusional insanity.	Retroverted and adherent uterus, laceration of perineum.	Ventrosuspension of uterus, perinorrhaphy.	Improved.	Cured.
17	Chronic delusional insanity.	Prolapse of uterus, laceration of cervix and perineum.	Anterior colporrhaphy, repair of cervix and perineum.	Unimproved.	Died of uremia.
18	Chronic delusional insanity.	Retroverted and adherent uterus, laceration of perineum.	Ventrosuspension of uterus, perinorrhaphy.	Unimproved.	Cured.
19	Chronic delusional insanity.	Retroverted and adherent uterus, laceration of cervix and perineum.	Amputation of cervix and perinorrhaphy, ventrosuspension of uterus.	Improved.	Cured.
20	Chronic delusional insanity.	Subinvolution, retroverted and adherent uterus, double hydrosalpinx.	Removal of uterus and appendages.	Improved.	Cured.
21	Chronic delusional insanity.	Laceration of perineum.	Perinorrhaphy.	Unimproved.	Cured.
22	Chronic delusional insanity.	Laceration of cervix and perineum, endometritis.	Curettement, repair of perineum and cervix.	Unimproved.	Cured.
23	Dementia.	Endometritis, lacerated cervix.	Curettement, repair of cervix.	Unimproved.	Improved.
24	Chronic delusional insanity.	Mobile prolapsed uterus.	Alexander's operation.	Unimproved.	Improved.
25	Dementia.	Prolapsed uterus, laceration of perineum.	Abdominal hysterectomy.	Unimproved.	Improved.
26	Chronic delusional insanity.	Retroverted and adherent uterus, endometritis, lacerated perineum.	Alexander's operation, curettement, perinorrhaphy.	Unimproved.	Improved.
27	Dementia.	Gonorrheal endometritis, lacerated cervix.	Curettement, repair of cervix.	Unimproved.	Died of uremia.
28	Chronic delusional insanity.	Subinvolution prolapse, laceration of cervix and perineum.	Curettement, repair of cervix and perineum.	Improved.	Cured.
29	Chronic delusional insanity.	Retroverted uterus, laceration of perineum.	Alexander's operation, perinorrhaphy.	Unimproved.	Cured.
30	Dementia.	Prolapse of uterus, lacerated perineum.	Amputation of cervix, ventrosuspension of uterus.	Unimproved.	Died of uremia.
31	Acute depression.	Retroverted and adherent uterus, laceration of perineum.	Ventrosuspension.	Unimproved.	Improved.
32	Acute confusion.	Uterine fibroid rectovaginal fistula.	Hysterectomy.	Unimproved.	Died of uremia.
33	Acute excitement.	Laceration of perineum, endometritis, uterus retroflexed, enlarged ovary.	Curettement, repair of perineum.	Unimproved.	Improved.
34	Acute depression.	Laceration of perineum.	Repair of perineum.	Improved.	Cured.
35	Acute depression.	Laceration of perineum, endometritis.	Repair of perineum, curettement.	Improved.	Cured.
36	Chronic delusional insanity.	Fibroid uterus.	Hysterectomy.	Unimproved.	Cured.

practicable, 231 women. Of this number 61 menstruated irregularly; in 30 the discharge was scant, while in 63 it was profuse; 17 suffered from dysmenorrhea, 6 from menorrhagia, 4 from metrorrhagia; 8 had headache during the period and 26 suffered from abdominal pain. In 28 there was some increase of mental disturbance during the menstrual period. In 49 of the cases there was retrodisplacement of the uterus, in 57 retroversion, in 19 retroflexion, and anteflexion in 7, while in 11 cases the uterus was mobile. In 91 cases there was laceration of the perineum, in 80 laceration and in 54 erosion of the cervix; 75 had cystocele and 68 rectocele. In 17 there was hyperemia of the uterus, while in 30 cases the uterus was hypertrophied and in 25 cases there was prolapse. There was 1 case of cervical fistula, 1 of rectovaginal fistula, 12 with prolapsed ovaries, 3 with enlarged ovaries and 5 with enlarged tubes; 2 cases of cervical polypus and 7 of fibroid uterus. There was leucorrhea in 77 and gonorrheal infection in 11 cases. In 38 of the cases the mental disturbance of the patient was apparently increased by the pelvic disease, but in the other 173 cases no relationship could be made out between the mental disturbance and the pelvic condition. There were 70 cases in which there was serious pelvic disease, in which operative or other treatment was instituted for the definite purpose of studying its effect on the mental condition of the patient. In 22 of this number the pelvic disease was cured, and in 12 of these the mental condition was improved. In 26 cases the pelvic condition was im-

proved and 10 of these improved mentally; while in 22 cases there was no improvement in the pelvic condition, but there was mental improvement in 7 of them. We were somewhat handicapped and always have been by the refusal of the relatives to allow an operation to be performed in cases needing it, and this was largely the trouble in the cases not improved by treatment. It often unfortunately happens that consent to an operation is refused in those cases where we have reason to hope for the most benefit from such a procedure.

The foregoing table shows the number of operations performed in this Hospital during the past two years, with the result both mentally and physically.

We have not found that there is any particular form of insanity associated with pelvic disease, nor that there is any relation between the intensity of the mental disturbance and the severity of the pelvic disease, and the same holds true in the relation between menstrual disorder and insanity. In those cases where there was a distinct exacerbation of the mental disturbance in connection with the menstrual molimen, the patient was either free from menstrual disturbance or it was very slight. But in all of the cases where there was well-defined menstrual disorder, there was more or less severe physical disturbance. There were 18 cases of infantile uterus among the young unmarried women, and in most of these cases the ovaries were small and hard. These women were, however, primary degenerates and more or less completely demented before coming to the Hospital. Among the epileptics there is usually an increase of mental disturbance, and in the number of convulsions during the menstrual period, but those under our care are free from pelvic disease or menstrual disorder. In studying the histories of the 231 women we found that in 10 cases the insanity was attributed to the influence of the change of life, in 19 cases to menstrual disorder and in 15 to pelvic disease. In all of these there was the same want of relation between the severity of the pelvic disease and the intensity of the mental disturbance. In fact, most of the cases, after careful examination and study in the hospital, failed to disclose any evidence of severe pelvic disease or any connection between the insanity and the disease of the generative organs. At the same time it was quite evident in other cases that if the existing pelvic disease had been recognized and carefully treated in time, the mental breakdown of the woman might have been averted. During the past two years there have been committed to the hospital five women on whom laparotomy has been performed, and some one or all of the generative organs removed for the purpose of curing the existing insanity. In one case the patient was sent to the Hospital soon after the operation, she having torn open the abdominal wound during an outbreak of violence. Her recovery from this accident was uneventful and she got well enough mentally to go home. The other four are still with us and always will be, and during the past ten years there have been 12 other women committed to the hospital on whom laparotomy had been performed for the cure of insanity. They, too, had not been benefited mentally and have since died or are still with us.

The following table shows in detail the conditions found and recorded during the four years from July 31, 1894, to July 31, 1898, classified according to the degree of defect in the individual.

The consideration of the data furnished by this study naturally falls into three subdivisions, as follows: What is the relation between menstrual disorder or pelvic disease and insanity among women? Do or do not these disease conditions in the generative organs of women of themselves give rise to insanity? What class of cases will be benefited by treatment, operative or otherwise, and how may this class of cases be recognized? Comparing my experience in private practice and my observation of the work of others with my study of the incidents of the menstrual molimen in insane women, I do not believe that disturbance or dis-

PHYSICAL DISTURBANCES FOUND ON EXAMINATION. WOMEN.

	Totals	Senile degeneration	Consecutive degeneration	Primary degeneration	Unstable	DEGREE OF MENTAL DEFECT.	
PELVIC DISORDERS.	47	1	16	15	15	Amennorhea.	
	58	1	16	25	16	Dysmenorrhea.	
	11		3	3	5	Menorrhagia.	
	6		1	4	1	Metorrhagia.	
	144	10	34	42	58	Leucorrhea.	
	100	11	30	42	17	Hymen destroyed.	
	53	1	12	25	15	Hymen intact.	
	33	4	12	8	9	Uterus large.	
	17	1	6	4	6	Uterus small.	
	13	1	6	3	3	Subinvolution.	
	106	11	43	24	28	Uterus displaced.	
	101	5	32	23	41	Adhesions.	
	9	1	4	4		Uterine fibroid.	
	1	1				Uterine cancer.	
	1	1				Uterus removed before admission.	
	7		3	4		Pregnant.	
	36	5	5	15	11	Laceration of cervix.	
	49	1	26	14	8	Erosion of cervix.	
	3		3			Cystic degeneration of cervix.	
	2	1	1			Infantile cervix.	
	3	1		1	1	Constriction at inner os.	
	11	1	3	4	3	Disease of ovaries and tubes.	
	23	1	12	2	8	Vaginitis.	
	153	28	51	56	18	Laceration of perineum.	
	49	8	22	8	11	Cystocele.	
	45	3	25	8	9	Rectocele.	
	3	1	1	1		Cyst of Bartholini's gland.	
	1	1				Urethral polypus.	
	2	1	1			Cervical polypus.	
	1	1				Cervical fistula.	
	1	1				Rectovaginal fistula.	
	1				1	Cystitis.	
	1				1	Retention of urine.	
	13	4	2	6	1	Hemorrhoids.	
	2	1	1			Contracted pelvis.	
BACTERIOLOGY OF VAGINAL DISCHARGE.	5	1	1	2	1	Proteus.	
	15	2	11	1	1	Colon.	Bacilli.
	12	1	2	4	5	Pyocyaneus.	
	4	1		1	2	Subtilis.	
	1		1			Tubercle.	
	1		1			Syphilis.	
	17	2	7	5	3	Pneumococcus.	
	2		2			Gonococcus.	
	1	1				Branched leptothrix.	
	3		2	1		Yeast cells.	
	1	1				Molds (common).	
	2	1	1			Blastomyces.	
	1	1				Small spirillum.	
	61	4	30	17	10	Pyogenes Albus.	Staphylococcus.
	21	2	9	5	5	Pyogenes Aureus.	
	1	1				Micrococcus Roseus.	
	1	1				Streptococci.	

order during the menstrual period is as common among the insane as among the sane, and what disturbance there is gives rise to but little apparent evidence of its presence, for as a rule we have to search for it. Now, when we take further into consideration the fact that the physician is consulted only by those who are ill, we can find an explanation of the comparative discrepancy between the results obtained by the gynecologist in his study of the cases of menstrual disorder or pelvic disease associated with nervous disturbance, which come within his purview, and those apparent in a large number of women aggregated in one place on account of their mental disturbance. There is the natural tendency in both cases to interpret the evidence found in the terms of the conclusion sought for. However, I am impressed with the tendency of the gynecologist to overlook the large number of women suffering from nervous and mental disease who do not consult him and who are not conscious of the presence of menstrual disorder or pelvic disease. While a considerable number of the women admitted to the hospital during the time included in this study were, as shown by the figures, suffering from pelvic disease or menstrual disorder, these conditions and their influence on the mental condition of the women seldom formed a part of the clinical history of the case before coming to the hospital. Even in those cases where the patient had been under treatment for menstrual disorder or pelvic disease, the fact of her coming to the hospital afterward would indicate either that there was no relation between the disease of the generative organs and the insanity or that the treatment had been of no avail in curing the mental disturbance. But when we consider the intimate association between the nervous system and the functional activity of the generative organs in women, and the further fact, referred to in the figures given, of the association of arrested development in the generative organs of women with instability or defect in the general nervous system, it is easy to understand why these disease conditions should apparently stand in causative relation to each other. This is frequently so marked among primary degenerates that the uterus and appendages present all the characteristics of senility, while menstruation is either scanty, delayed or sometimes absent for long periods. Again, in this class of cases, it is the rule for the advent of puberty to be delayed, the average being 17 years, and we have the record of one case where menstruation did not begin before 22 years of age, and yet no one at all familiar with insanity would think of attributing the mental disturbance accompanying the progressive degenerative changes in the nervous system in these cases to menstrual disorder. However, it is not uncommon to see young women, primary degenerates, whose uteri have been curetted or their ovaries removed with the object of curing a condition dependent on progressive degeneration in the nervous system; because the physician, while recognizing the intimate relation between the nervous system and the generative organs, failed to see that the pelvic symptoms were dependent on the degenerative process in the nervous system and that both were due to defective development. I can not do better than to here quote from a paper on a closely related subject, recently read by me before the American Medico-Psychological Association. "In this end of the century when women are warring against their natural position in relation to the reproduction of the species; while the competition of social and industrial life and the growing desire to avoid any responsibility which interferes with material advancement or social opportunity is so strong; it is not surprising that we should find so many disturbances of the nervous system associated with the bearing of children; or that this originally physiological function and process should be credited with the untoward results which so often accompany and follow it. . . . To my mind the various disturbances associated with maternity simply prove what we know as a physiologic fact; that is, the intimate association between the function of reproduction and the activities of the rest of the organism; while the greater instability of the nervous system in women renders conspicuous and prominent those changes which the concentration of her vital forces in the process of reproduction makes possible and renders apparent; because under modern social conditions, the nervous system is not equal to the task of controlling its own manifestations and meeting the extra demands upon it."

When we come to consider the second subdivision of the question—as to whether menstrual disorder and pelvic disease do or do not of themselves cause insanity, we have to carefully weigh the evidence for and against the contention. In conducting this study I have considered first the family history of the patient and then her personal history, including the condition of her mother and father at the time of conception; of the mother during gestation; the character of the labor; the infancy and childhood of the individual, with especial reference to disease accompanied by prolonged high temperature, great exhaustion; convulsions from any cause; manifestations of disturbance of nervous equilibrium during the period of second dentition; the establishment of puberty, the history of the menstrual function during the period of adolescence, and finally the record of maternity in those women who have borne children, and of the menstrual molimen in those who have not. From the data obtained I have been enabled to divide the women into two general classes: those who have an unstable nervous system and those who have a defective nervous organization. The former are generally the children of the neurotic and insane; the latter the offspring of the consumptive, alcoholic, and syphilitic. Dipping into both classes come those children who have been born after prolonged labor, have suffered from disease accompanied by prolonged high temperature or great exhaustion, or have had convulsions from any cause during infancy. These causes operate to arrest development and limit the potentiality of the nervous system, either by mechanical interference with the nutrition of the brain, or general trophic influence. Among the class grouped as unstable there is practically always a history of disturbance during the establishment of puberty and through the period of adolescence, manifested by either amenorrhea or dysmenorrhea. Among the defective, however, there has been practically no evidence of a departure from the normal in the establishment of puberty or the process of menstruation. Among the unstable the history of the onset of the mental disturbance, which in this class is usually acute, practically always shows the insanity to have followed on some mental or physical strain due to disease, overwork or worry, which has overtaxed the limited cerebral potentiality of the individual. It is true that if the patient is the victim of dysmenorrhea, this acting as a source of irritation may exaggerate the mental disturbance and, besides, the causes which operated to produce the mental and physical exhaustion on which

the intensity is engrafted, will also almost certainly increase whatever menstrual disorder may be present; so that the outbreak by which the insanity becomes apparent may make its appearance during a menstrual period; but I do not believe that because of this we are warranted in saying that the insanity was caused by the menstrual disorder, and the same holds true with regard to pelvic disease. Anything which reduces the vitality of the individual will exaggerate whatever pelvic disease may be present, or even make apparent by local symptoms a condition not before felt or complained of. We often have young women, committed to the hospital, in whom there is a history of severe menstrual disorder, which disappears entirely in a comparatively short time under the régime of hospital life, with the relief of constipation, indigestion and insomnia, but without any measures directed against the menstrual disorder itself. The history of the menstrual molimen thereafter shows no evidence of exaggeration of the mental disturbance, nor do the manifestations of the insanity necessarily or commonly improve with the relief of the menstrual disorder. Among the women of the defective class, which furnishes the largest proportion of our primary degenerates—that is, those women who become insane during the adolescence and lapse into dementia—it is the exception to find any menstrual disorder, and those among them who have borne children, although subject to the accidents of labor, septic infection during the puerperium and the ill results of subinvolution, rarely bring with them a history of pelvic disease or complain of discomfort after coming to the hospital.

This naturally leads to the last subdivision of the question. How may that class of cases of insanity be recognized which offers hope for relief or cure by the treatment of pelvic disease, either operative or otherwise? Judging from my own experience and observation no case of insanity dependent on a degenerative process in the nervous system will be benefited mentally by operative treatment, but on the contrary may, and in the majority of cases does, have the degenerative process hastened by the shock of the operation or the production of a premature climacteric. In all cases of insanity among the unstable class, where there is serious menstrual disorder which the history of the case shows to have grown worse since the onset of insanity, the patient will be benefited by local treatment; provided her delusions do not in any way relate to the sexual function or the condition of the reproductive organs. Such treatment timely begun may be the starting point for recovery; yet it is only fair to say that I have often been disappointed and, on the other hand, have seen cases, apparently seriously in need of treatment recover promptly without it. However, neither of these exceptions disproves the general rule. In the presence of pelvic disease operative treatment is required for the very same conditions that would demand it among the sane, and the relief of the physical disease may and often does materially aid in recovery from the insanity. Even when this is not accomplished the life of the woman is made more comfortable and her mental disturbance lessened. The greatest risk to the mental integrity of the woman from operative interference is, strangely enough, in that class of cases where the temptation to operate has been the greatest. I mean in young degenerate women with infantile uteri, small sclerosed or cystic ovaries and who have explosive outbreaks during the menstrual period; or women who have borne children, who have a slight perineal or cervical tear and an enlarged and tender left ovary and slight subinvolution, but with a symptom-complex out of all proportion to the amount of disease present. Operation in such cases practically always means the determination of dementia. The following conclusions seem to me to be warranted by our study of the data furnished by our examination and treatment of the women committed to this hospital.

Menstrual disorder and pelvic disease, while quite common among insane women, in the majority of cases bear no apparent relation to the insanity; nor is the intensity of the mental disturbance in proportion to the gravity of the physical disease.

In cases where the insanity has existed for more than a year, or the patient has a defective nervous organization, treatment of the disease of the generative organs is practically without effect on the insanity, and in such cases operative interference resulting in the establishment of an artificial menopause almost invariably hastens the onset of dementia.

Operative interference is called for in the treatment of pelvic disease among the insane for the same reasons that would determine the necessity for such treatment among the sane.

In order to determine whether or not treatment of the disease of the generative organs will have a curative effect on the insanity, it is important to know the family and personal history of the patient with regard to the presence or absence of evidence of unstable or defective nervous organization, the length of time the insanity and disease of the generative organs have existed, and to what extent the general health of the patient is affected by the pelvic disease independently of the insanity.

CHOLECYSTITIS.

ITS RELATION TO ANGIOCHOLITIS AND CHOLELITHIASIS.*

BY CHARLES G. STOCKTON, M.D.,

BUFFALO, N. Y.

In the etiology of cholecystitis, what rôle is played by biliary calculi, trauma, exposure to cold, and what by invasion of the gall-bladder by pathogenic bacteria?

To explain the various painful and obstructive disturbances of the biliary passages by attributing them to gall-stone has been so simple and natural that such pathology went for a long time unchallenged. The suspicion that the process was vastly more complex than we have imagined has long been held, and during the past ten years our knowledge on the subject has so much widened that the pathologic position of the calculus in so-called gall-stone attacks has undergone a radical change. There were series of ascertained facts that were not to be disposed of by the simple statement that gall-stone was present, and for some unknown reason took upon itself to migrate from the gall-bladder. Here are a few of these facts:

1. In a large number of post-mortems, gall-stones are found present without any history of jaundice, hepatic colic, or other liver trouble.

2. In post-mortems of those dying from biliary obstruction there sometimes have been found no calculi in the biliary ducts, but one or two very large calculi in the gall-bladder, quite too large to engage in the cystic duct, and, therefore, not directly guilty of the attack.

3. Obstruction of the biliary passages is not infre-

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

quently found to be complete when no gall-stone is found present in any of the biliary passages.

4. A calculus is sometimes found in the common duct without jaundice, colic or other symptoms of obstruction.

5. When gall-stones are found post-mortem, or in operations *in vivo,* and there have been recent symptoms of hepatic colic and jaundice—whenever these have been searched for, evidences have been found of cholecystitis, or angiocholitis, or both.

These observations would seem to point to the fact that gall-stones may be innocent tenants of the gall-bladder; that attacks of hepatic colic may occur when there are no gall-stones at all; that an inflammatory process of the biliary passages seems in some way related to the attacks of gall-stone colic.

What then is the pathologic position of the gall-stone, and what the secret of its formation? What rôle does it play in the evolution of hepatic colic and biliary obstruction?

The belief has been held from time immemorial that some changed condition of the secretion of the liver, the result of diathesis or dyscrasia, led to the precipitation of the solids of the bile and the formation of calculus. This belief has had support in the fact that the gall-stone is more often seen in women than in men; in age than in youth; is more often present in those who lead sedentary lives, and in those who have obesity and the uric acid diathesis. On the other hand it has been long suspected that the gall-stone had its origin in local conditions, and that it was not so much dependent upon a systemic state.

In 1891, Naunyn, at the German Congress of Physicians and Naturalists, sounded a clear note on the nature and formation of biliary calculi. First, he showed the constant and unchanging presence of cholesterin and lime in the bile, without any relation to the food ingested. Next, he showed that there were present substances in the bile which hold in solution the cholesterin in far greater quantity than is necessary to prevent this precipitation in the bile. He also showed that dogs, when fed upon lime in large quantities, had no increase of lime salts in the bile. Thus, while experience shows that certain habits of life tend to favor the development of calculi, these experiments of Naunyn, which have been verified, prove that that tendency is not to be found in the amount of cholesterin or lime in the bile, contrary to the reasonings of Bouchard. It upheld the theory that the origin of gall-stone lay in some particular condition of the gall-bladder which favors the precipitation of the solid constituents of the fluid, thus supporting the contention of Frierich, Niemeyer, Barth, and a host of others who were committed to a strictly local origin, as opposed to the systemic or dyscrasic origin of the calculi. These conclusions have been well stated by Stanislaus Pechkrane[1] as follows: "Modern investigations and teachings show that the disease is but a local one, the result of a morbid condition of the bile-ducts and gall-bladder, and that it is uninfluenced by any disturbance of nutrition."

Various observers have found that the center of gall-stones consists of bilirubin and lime salts, and that about this center the cholesterin is deposited. Naunyn has shown that this formation of the center of the calculus, and also of the precipitation of the cholesterin about it, follows almost invariably from an inflammatory process in the gall-bladder. In other words, given cholecystitis and a free supply of bile—although Naunyn holds that this free supply of bile is unnecessary, which view, I think, has been disproven by Mignot—and precipitation occurs in the order above described. The same reasoning holds true of the calculi formation in the other biliary passages.

It now remains to explain the origin of the cholecystitis, and this, it would seem, has been satisfactorily accomplished by Mignot, Gilbert, and others. While exposures to cold, trauma, obesity, age, and bodily inactivity favor the development of cholecystitis, there has been wanting some common factor to complete this explanation. This missing link in the chain, in the light of recent investigations, seems to be found in infection. This belief has not been reached without much painstaking effort, and we owe a debt to the French investigators for this step in advance.

It was formerly believed that bile possessed active antiseptic properties. This has been disproven by Vignal, Copeman, Winston and Bernabel. Naunyn proved that in the terminal portion of the ductus choledochus living organisms are usually found present. In 1891, Latienne showed that the presence of micro-organisms in the biliary passages always brings about the precipitation of various compounds of the bile. Mignot[2] and Gilbert[3], with the assistance of Dominici, and later, Fourniers, have shown not only this result of the presence of micro-organisms, but they have traced the process step by step to the origin of the calculi and have disclosed the nature of the organisms usually concerned in the work. It is the colon bacillus that is most often responsible for the biliary catarrh; but the typhoid bacillus, the proteus vulgaris[4], staphylococcus, streptococcus, and others are occasionally found. The colon bacilli are present, either dead or alive, in one-third the number of cases (70) investigated. It was shown that the calculi containing the living micro-organisms were of recent formation, while old calculi were sterile. Mignot, in 1896, showed that foreign bodies, when sterile, could remain in the gall-bladder for an indefinite time without inducing inflammation of the mucous membrane or precipitation from the bile. It is thus seen that the gall-stones may be innocent tenants of the gall-bladder, that their origin is secondary to infection of the gall-bladder, and that they are mere incidents of an inflammatory process and not themselves the cause of the inflammation, and that they may have no influence in producing inflammation of the bile-passages except when they exercise pressure upon the inflamed surface or, in escaping, cause abrasion of the delicate mucous membrane or, when held fast in the bile-ducts, they offer obstruction and thus favor the extension of the infection already present.

It is an interesting fact, as shown by Mignot, that the more virulent organisms do not give rise to gall-stones, but that only those having the properties of producing a slight inflammatory reaction are concerned in calculus formation. He also demonstrated that in the condition of atony of the gall-bladder, and in complete stasis of the bile, the formation of true stratified calculi is impossible. It is necessary for the biliary passages to be open so that the bile renews itself, in order to have the proper conditions for the formation of gall-stones. It is regarded as improbable that there is any increase in the size of the calculus after the death of the micro-organisms present. It is known that in man, under ordinary conditions, these organisms die in a comparatively short time; and thus is explained the fact that sterile calculi are found in sterile gall-bladders without attacks of biliary colic having ensued. The fact that the precipitation of the bile compounds occurs

when there is catarrh of the mucous membrane of the bile-passages, associated with the presence of micro-organisms, and that without this association, the gall-stones become inert, throws light upon the results of certain methods of therapeutics that hasten the death of the pathogenic bacteria, the subsidence of the catarrhal inflammation, and the disappearance of biliary sediment. On the other hand, the mere removal of the gall-stone by surgical intervention without other methods of treatment may not do more than afford temporary relief, and another calculus may at once form, as the infection and the cholecystitis may continue. It is a fact that in two-thirds of the cases of cholelithiasis in man, the bile is found to be sterile; in which cases the calculi are old and, as before stated, when the calculi present evidence of recent formation, infection and inflammation of the bile-passages are present. In passing, it should be mentioned that some experimental work supporting the views of the French observers has been done in this country by M. W. Richardson[5].

W. Hunter[6] attributes the catarrhal condition of the bile-passages to a toxic condition of the bile, resulting from faulty digestion and other causes of dyscrasia before referred to. He does not regard it as positively necessary that the biliary ducts should become infected. This view apparently rests on the fact that gall-stones are found present under sterile conditions; but, as has been shown, the bile under favorable conditions rapidly becomes sterile, and although infection sometimes continues for years, it is, after a short time, frequently absent. Instances of gall-stones, surrounded by mucopurulent fluid which is perfectly sterile, have been recorded.

It is very probable that the calculus acts as an irritating foreign body in the presence of inflammation, and the removal of the gall-stone unquestionably exercises a beneficial influence on the course of the cholecystitis. Indeed, it is held by Riedel[7] and by S. Mintz that the more serious symptoms of gall-stone colic are the result of what Riedel calls "perialienitis," that is to say, an inflammation of the structures immediately surrounding the gall-stone. Riedel looks upon the inflammation about the gall-stone as a cause of the pain and spasmodic contraction of the gall-bladder, and holds that without this spasmodic contraction it would be impossible for the calculus to escape from the gall-bladder, believing the normal muscular activity of the organ to be quite sufficient. In the same way a gall-stone incarcerated may intensify the existing angiocholitis. Thus we have explained dropsy of the gall-bladder, pain, fever, jaundice, toxemia, as well as ulceration of the walls of the bile-passages that permits the escape of the gall-stones into surrounding parts. But we must not lose sight of the fact that the process, from beginning to end, hangs upon inflammation, and the inflammation upon infection. The question of dyscrasia, so long held and re-suggested by Bouchard and Hunter, may be explained by admitting that these conditions lessen resistance and thus favor infection and the formation of calculus.

Let us now look at the matter from the standpoint of the second question in this paper: "What relation does cholecystitis bear to angiocholitis, jaundice, enlargement of the liver and hepatic colic?" In other words, we are to take a different view of the same process. The question has already been answered in part. Usually when there is cholecystitis, there is more or less angiocholitis. The passage of the gall-stone increases the inflammation. There is swelling of the mucous lining of the bile-passages and closure of a sufficient number of them to lead to the retention of bile in the liver. Jaundice necessarily follows, enlargement of the liver succeeds, the organ sometimes reaching twice its normal size, becoming dark in color, tender on pressure, and sometimes painful. At such times the gall-bladder becomes distended with bile unless there happens to be closure of the cystic duct. But even then, distension quite frequently results from inflammatory exudate into the gall-bladder, which may be felt as a distinct rounded tumor. At other times it is concealed by the enlarged right lobe of the liver; or, the gall-bladder may become thickened or shrink into an insignificant space. In some cases it is difficult to say how much of the pain is attributed to the pressure of the stone, and how much to the inflammation. Naunyn[8] holds that not only is distension of the gall-bladder due to cholecystitis, but also that the pain, cholangitis, and the symptoms of obstruction are thus to be accounted for. Of course, when the gall-stone acts as a distinct plug in the ductus communis choledochus, an icterus would result, but this is a rather unusual state of affairs. He points out that there are cases of cholecystitis that give the picture of gall-stone colic, but which, on operation, show the absence of calculus. As a rule in such cases, the pain ceases, the swelling, the gall-bladder, icterus and fever subside. There may be recurrences, and eventually, through accidental increase of the virulence of infection, the symptoms may become very prominent, metastasis may be formed, and death result from sepsis or prostration. Or, there may result a chronic cholecystitis, with hydrops or empyema of the gall-bladder, or, coincident with the escape of gall-stones, the patient may improve, and recovery will ensue. Naunyn reiterates the statement of Mignot, that cholecystitis and angiocholitis are infectious from the beginning.

In a recent contribution to the Berlin Medical Society, March 15, 1899, Pollatschek takes a very similar position, holding that biliary colic may arise solely from inflammatory processes without the presence of any gall-stones whatever, and that even in severe cases of cholelithiasis icterus may be wanting. In this connection he points out the frequency with which the pain of biliary colic is mistaken for cardialgia, and calls attention to the fact that in the latter condition swelling of the liver is present. The contrary is almost always true of cholecystitis or angiocholitis with or without calculus. He speaks highly of a method of palpation suggested by himself, the value of which I can from personal experience vouch for. It consists in placing the four fingers of the left hand lightly over the edge of the liver while the necessary pressure is given to them by the four fingers of the right hand placed upon the dorsal surfaces of the fingers of the left. The tactile sense of the finger tips is far greater when there is absence of muscular contraction in the examining hand.

Pollatschek also draws attention to the fact that in instances of cardialgia there are almost always present well-defined stomach diseases, whereas in cholelithiasis we have merely a sympathetic gastric condition; also in hepatic colic we nearly always have the accompanying peritonitic symptoms so different from those seen in simple gastralgia.

I have recently seen two cases of obstinate cholecystitis and angiocholitis in which a single gall-stone was incarcerated at terminal extremity of cystic duct, in which was seen a beautiful illustration of inflammation of the surrounding parts, which Riedel calls "perialienitis." In these cases the swelling of the hepatic duct was sufficient to produce intense jaundice and enlargement of the liver.

In both cases the gall-bladder was small and much thickened. These cases also illustrated very strikingly the results of long-continued localized peritonitis, so commonly present in cholecystitis. The numerous adhesions, binding down into a mass of scar tissue the regions about the gall-bladder, are not only a great embarrassment to the surgeon, but give abundant evidence of the seriousness of the affection.

Let us now turn to the third question: "How far may the course of cholecystitis and the prognosis be modified by treatment other than surgery?" We can not turn our backs upon the experience of the ages that points to the fact that certain habits of life predispose to the formation of biliary calculi. Just how obesity, a sedentary life, gluttony, etc., invite infection of the gall-bladder, we may not be able to explain. In some way immunity seems to be lowered. The experiments of Naunyn would seem to show that this does not depend upon the constituents of the bile. These experiments are apparently conclusive so far as lime, cholesterin, and coloring matter are concerned; but there may be other elements in the bile of those individuals leading unhygienic lives that favor irritation and inflammation of the biliary passages. On this very important point some light would seem to be shed from a therapeutic standpoint. The treatment adopted at Carlsbad has long been famous for the relief afforded such cases. This plan of treatment is not limited to drinking of Carlsbad waters, but it is a carefully worked out plan of hygienic living, including diet, baths, exercise, recreation, and the administration of drugs.

Bearing on this treatment, A. Hermann[9] reports his valuable observations. He admits in the beginning that the treatment has no influence in the expulsion of the calculus, and says that such migration is a purely accidental matter. Nevertheless, he shows that attacks of hepatic colic are comparatively rare in the patients under treatment. Of 114 cases of cholelithiasis that came under his observation at Carlsbad in 1898, hepatic colic occurred in 19 only. Now, if the calculi remained in the gall-bladder without producing colic attacks, it would seem that the tissues must be so modified by the treatment that the inflammation disappears, and it is highly probable that at least a portion of the benefit lies in the modification of the character of the secretion of the liver. Herman reports that in 1886 there were in Carlsbad 34,320 cases of cholelithiasis, and only 18 died of the disease; 71 died from other diseases secondary to cholecystitis, such as abscess of the liver and peritonitis. He also reports that colic often returns after operation and removal of calculi. He cites 15 cases that were operated on in which the colic returned in 7. This can not be fairly construed as an argument necessarily against the proper practice of surgical intervention in cholelithiasis, but it goes to show that the disease is really an infection of the biliary passages, and that until these parts become free from infection there is a reasonable probability of the reappearance of the calculus.

A review of the benefit derived from a well-known plan of medical treatment is believed to be timely when surgical treatment of the affection is coming to be so generally advised. The benefits obtained from surgery are not merely owing to the removal of the calculus. Indeed, Riedel ventures the opinion that 95 per cent. of the calculi migrate from the gall-bladder and are discharged without provoking true icterus, or serious obstruction. This seems like a very strong statement, but at any rate it points to the fact that the gall-stone, either in the gall-bladder or in its spontaneous passage from that organ, creates comparatively little disturbance as long as inflammation is not present.

Riedel believes that as soon as the diagnosis of cholelithiasis is made, the calculus should be removed by operation, and yet he admits that 80 to 90 per cent. of so-called attacks of hepatic colic are merely the symptoms of cholecystitis. In other words, the operative procedure, including the removal of the gall-stone, has for its object the cure of the cholecystitis. As has been shown, operation, even though offering temporary relief, offers no assurance that the disease may not recur. Undoubtedly in a certain proportion of cases the inflammation includes the dangerous complications of chronic angiocholitis, hepatic abscess, and peritonitis, which with the assistance of surgery might have been prevented; but even in the cases in which operation is demanded, a carefully considered plan of medical treatment should be applied, not only to assist in recovery, but to prevent recurrence. In the great majority of cases, if the patient can be put under proper control for a sufficient length of time, the inflammation of the bile-passages will disappear, the calculi, although retained in the gall-bladder, will cause no trouble, and the patient is likely to continue thereafter in good health.

BIBLIOGRAPHY.

1. Medycyna, Tome xxvii, 6 and 7. See translation by Fronzac, Buffalo Med. Journal, July, 1899.
2. L'Origine microbienne des calculs biliares. Arch. Gén. de Méd. August and September, 1898.
3. Note pour servir a l'histoire de la theorie microbienne et de la lithiase biliare. Arch. Gén. de Méd., September, 1898.
4. Gouget: Arch. de Méd. Exp., No. 40, 1897.
5. Journal Boston Soc. of Med. Sciences, January, 1899.
6. British Medical Journal, October, 1897.
7. Medycyna, Tome xxvi, 48 and 49.
8. Muench. Med. Woch., October, 1898, No. 40.
9. Medycyna, February, 1898.

DISCUSSION.

DR. GEORGE DOCK, Ann Arbor, Mich.—When a case of cholecystitis presents itself, the physician should call in the surgeon in consultation, especially one who has had experience in diseases of this kind. I think, however, that the physician should not give up the case entirely to the surgeon. The after treatment is of the greatest moment, and the patient should be watched for a long time. Such cases offer a fruitful field for experimentation. The importance of calling in a surgeon depends on the fact that in a small proportion of cases serious complications, such as adhesions and perforations, are likely to occur unexpectedly, and might be dangerous to the patient.

DR. JUDSON DALAND, Philadelphia—I desire to refer to two cases recalled by Dr. Stockton's paper, and by the remarks of the last speaker. In one case the patient had recurring attacks of jaundice with pain, and the case looked like one of ordinary gall-stone with obstruction. The autopsy showed the difficulty to be cancer of the head of the pancreas. The mass pressing against the opening of the common bile-duct, produced an obstructive jaundice, and from time to time the softened center of the cancer discharged into the duodenum, the pressure on the common bile-duct thereby being relieved and the jaundice disappeared. Again the opening closed and the jaundice reappeared. This recurred several times. I also recall a case seen three years ago similar to the one described; in this instance a gall-stone was removed from the gall-bladder and the patient rapidly recovered from the operation and there was no return of the attacks of biliary colic for three months, when they recurred and in six months attained their original severity. It was believed by the surgeon that he had removed all the stones, and the symptoms were looked on as due to other causes; a second operation was performed and a stone was found in the common bile-duct, which, judging from its size and appearance, probably existed at the time of the primary operation.

The common bile-duct is often found with difficulty by the surgeon, especially in patients with large abdomen and in the obese. If the head of the pancreas is grasped by the thumb below and the middle finger above, in the long axis of the body, and the index finger be allowed to fall downward, it will press against the region occupied by the ductus communis choledochus.

DR. T. B. FUTCHER, Baltimore—I wish to refer to the importance of the typhoid bacillus as an agent in forming the nucleus of gall-stones. A number of years ago Dr. Welch, of the Johns Hopkins Hospital, demonstrated that a clump of these organisms may form a nucleus about which calcium salts may be deposited. Such cases have been operated on, the calculus cut into under strict antiseptic precautions, cultures made from the center of the latter and the typhoid bacilli grown out in pure culture. This shows that typhoid bacilli may form a nucleus about which cholesterin and lime salts may be deposited. Recently, a case in Dr. Kelly's department was operated on for cholecystitis and suspected gall-stones. The cultures taken from the fluid in the gall-bladder at the operation showed the presence of large numbers of typhoid bacilli, subsequently grown out in pure culture. The patient, a woman, had typhoid fever eighteen years previous to the operation, and there was no history of any subsequent attack. A gall-stone came away with one of the pieces of gauze later on when the case was being dressed. Whether the typhoid bacilli formed the nucleus of the calculus in this case is not known, as the stone was not saved, but this instance shows how long the bacilli may remain in the body and finally give rise to an acute cholecystitis. The patient's blood-serum agglutinated typhoid bacilli from another source and also the typhoid bacilli grown out in pure culture from her own gall-bladder.

DR. HORACE D. ARNOLD, Boston—At a meeting this spring I had the pleasure of hearing Dr. Mark Richardson report an instance where there was injected into the gall-bladder of a rabbit, typhoid bacilli: this injection was made under the usual antiseptic precautions; as a result of such injection a calculus was formed. This is only one case, but it is in line with the evidence given by the last few speakers.

DR. CHARLES G. STOCKTON, Buffalo, N. Y.—The surgeon should not only be called in cases of cholecystitis, but he should be associated with the physician in the study of the case. In each case I referred to, as you may have noticed, a surgeon was called and calculi were removed. It is not always a clear matter to decide when an operation is indicated or when an inflammatory process is present. I had a remarkable case under my care this past winter. The patient, a woman, about 30 years of age, had always been healthy; she had typhoid fever last autumn, which ran its usual course; about six weeks later she was seized with severe pain and it was at first supposed to be simply a gastralgia. Later the pain was referred to the liver, and there was jaundice with distension of the gall-bladder. After the sickness had lasted about three weeks, a leucocytosis became marked and it was the opinion of Dr. Park that an operation was indicated. Operation was decided on for the following morning, but, the leucocytosis declining, we decided to wait longer. She made a recovery that was remarkable, but not until after she had passed gall-stones on three separate occasions. Since that time she has been well. This case is interesting in pointing out the close relationship existing between gall-stone development and cholecystitis. Typhoid bacilli are reported as surviving long in the gall-bladder, but not so the colon bacilli. Dr. Daland remarked, I believe, that when there is obstruction in the bile-ducts or the radicals of the biliary passages, this obstruction may develop an immediate infection. This is not so true of the cystic duct as of the common bile-duct. When the obstruction is at the outlet of the common duct, we almost invariably find jaundice following, and often pain. The jaundice, in this case, is not merely the result of obstruction caused by the angiocholecystitis. The latter is excited by the calculus, but without inflammation jaundice would, of course, continue.

RESPONSIBILITY OF THE PHYSICIAN IN VACCINATION.*

BY JULIA W. CARPENTER, M.D.,

CINCINNATI, OHIO.

That smallpox has ever been a fearful scourge in the world is known to but few outside of the medical profession, and the full extent of this scourge in the past, unless it has been portrayed in undying colors in the class-room, is not a vivid picture even now with the majority of physicians.

So quickly does the world become accustomed to the absence of a once dreaded disease that its reappearance is needed to force again a study of its history, its ravages, its cause, its prevention and obstacles to its prevention. Its history tells us that since the days of the immortal Jenner there has been a grand transformation scene on the face of the earth. This change has been almost incredible. Before the days of vaccination the ravages of smallpox were beyond belief. Two millions have sometimes died in one country in one year. Now the majority of physicians have never even seen a case. To those who died of the smallpox must be added also a long list of those who recovered from it, but died of some other disease for which smallpox was the predisposing cause. For instance, smallpox predisposes to tuberculosis. The statement has been made by one observer that of 360 persons who recovered from smallpox and were kept under observation, only four escaped tuberculosis. Those that now die of smallpox can not be classed with any noble army of martyrs, for these deaths have been proved to be unnecessary.

The subject of vaccination is of vital interest to us at this moment for several reasons: 1. On account of the recent epidemic of smallpox. 2. On account of the discussion for and against the propriety of legislation one way or another on the subject. 3. On account of the growing sentiment against vaccination and the industry with which its opponents are working.

The epidemic of smallpox in the United States during the past year could not have existed if the proper precautions had been taken, and vaccination had been universal. Why it was not, can be accounted for in two ways: 1. Out of sight out of mind, is a true adage. Absence of the disease without law to insure its prevention is the forerunner of its reappearance. 2. Ignorance on this subject among the people furnished good soil in which the enemy sowed tares, and the anti-vaccinationists arose on the scene.

The vital point in it all is: What is the cause of the opposition to vaccination, and what are the means to overcome this opposition? The strongest weapons in the hands of these enemies are facts, but these facts do not need to be repeated, if great care is exercised by the physician in the manner of vaccination and care of the patient afterward. The manner of vaccination has now been reduced to a nicety. The responsibility for the purity of the vaccin no longer rests with the physician. We now have co-workers who make its preparation their specialty, and on their faithfulness and conscientiousness depend our success and their pecuniary reward; for any impurities traced to one firm would at once turn the demand in another direction. At present the hermetically sealed tube of glycernized vaccin outranks all other forms for safety. It is a little more troublesome, but so is everything that is done in the best way possible. The ivory points, though coated with the same pure vaccin, are more or less exposed to the air and contamination by germs.

As to the place for vaccination, there is certainly room for good judgment. In recent vaccinations one still sees with girls, as well as boys, large scars on the arm midway between the shoulder and elbow. Why put a scar in a conspicuous place when it is not at all necessary? Our office is to remove all traces of disease, not to put them forever before the eyes. This gives the bearer of such a blemish an occasion to blame, and also gives another physician an opportunity for just criticism. One young lady was vaccinated in four places an inch apart, making four corners of a square just in the middle of her arm; fortunately only one took; if all four had taken, such an immense cicatrix might have prevented the author from ever being sent

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

for afterward. Many girls and women prefer the mark on the leg, but why any physician would select the calf of the leg for that operation would be hard to tell. One young lady vaccinated at that point and receiving no care afterward was unable to leave her room at the end of two months. Other similar instances could be mentioned, but these are sufficient to show one kind of a mistake that adds to the ranks of the antivaccinationists.

Vaccination is no trivial matter, and does not allow itself to be treated as such. If treated as a matter of little importance, it is a wave started out that inevitably returns to the sender, as action and reaction are equal. Carelessness always gives a return blow to its author. Any one who vaccinates a patient and lets him go without some instruction and a positive promise to return runs the risk of that patient becoming an opponent to vaccination for two reasons: 1. There may be some untoward result which could have been prevented by a little oversight. 2. The patient can easily mistake an ordinary sore on the arm for a typical "take" and if he has smallpox afterward he concludes very naturally that vaccination is no prevention, hence he joins the ranks of the antivaccinationists. He spent his dollar for nothing and had smallpox besides. Every vaccination should be cared for as a case of mild sickness, which it is, and for perfect safety the patient should be kept under supervision until the case is over, that is until the crust is off. Ordinarily one should refuse to vaccinate unless the patient will come for inspection at least once before the ninth day, and the physician himself should pronounce on the result as to whether it is sufficient to afford immunity.

The following is the after-treatment that I have found gives the best results. After vaccination, extreme cleanliness within as well as without, should be enforced. That is the chief thing to prevent untoward results. Begin with a laxative not later than the third day, sometimes on the first, or even the day before, as a necessary preparation with some. Perfect sewerage of the human body is little known to the people and has to be taught to each patient. A bath every day when possible is an important adjunct, and the entire arm should be washed twice a day with hot water and soap, of course not touching the point of vaccination. The heat and irritation in the surrounding inflamed area is greatly relieved by a little vaselin. This treatment, which is easily carried out, will prevent those results that swell the ranks of our enemies. If further purification or upbuilding of the system is necessary, I have found tinct. of chlorid of iron most effective, but give it always in capsules to save the teeth, and give no cause to patient or dentist for future blame. We should be as careful of the teeth as of the eyes or ears.

When this treatment was carefully carried out during the epidemic of the last year, I was often surprised to find that instead of the height being reached on the usual tenth day, at that time all the symptoms had been on the wane for twenty-four hours or more. With that exception they ran the typical course and left the characteristic cicatrix.

Surgeons did not reach their marvelous results until they found out what absolute cleanliness really was and how to apply it. When those same principles are used in the treatment of disease there will undoubtedly be a corresponding success.

To insure this care for all, there are some difficulties in the way with two classes of people: those who are unable, and those who are unwilling to pay for this extra care. The laity do not know that any care is necessary, as the idea is current that vaccination is such a trivial affair that they might even vaccinate themselves. To insure the co-operation of these two classes, and for the protection of the physician, I have made it a rule to charge for the vaccination, and state that it will include subsequent visits to the office to insure that all is right. This is, of course, less compensation for faithful service in vaccination than for anything else, but with the present state of enlightenment of the public mind on this subject it seems to be the only method to protect both the people and ourselves. It is simply one more gratuitous benefaction added to the already long list to the world by our generous and noble profession.

To enlighten the people is to scatter the army of antivaccinationists, and to prevent unsightly scars, subsequent sickness and mistakes as to a "take" is to rob them of all their ammunition. With the physician rests the responsibility of keeping the people informed on the subject. A physician should in a few words give some information to each person vaccinated, and impress him with the value of the operation. To appear wise to a patient is not so much in the physician's favor as to make the patients feel they have learned something themselves. As the enemies of vaccination are wide awake and on the alert, and their weapons are results that can be avoided by care on the part of the physician, we have only to conclude that the price of the safety and universality of vaccination is eternal vigilance.

DISCUSSION.

DR. JUDSON, Wheeling.—This subject is trite, and doubtless physicians think they know all on the subject. As an officer of health for ten years, I find that although physicians may know everything there is to know about vaccination, they do not place in practical operation the knowledge they possess. The discussion on vaccination during the past few years has tended to prejudice people against vaccination. Whose responsibility is this? I believe the profession is more largely responsible than any one thing. I would, perhaps, be going a little too far in stating that accidents resulting from the introduction of the poison into the system by the operation of vaccination is the result of the carelessness of the operator. How many physicians take the trouble to watch the arm. How many physicians use the capillary tubes containing the glycerinated virus? I believe that no other virus but the glycerinated virus contained in these tubes is justifiable. I believe the profession should discard all other forms, because other forms expose the individual to infection.

As to the matter of dressing the wound, absorbent cotton properly placed can do no harm, but a better method is to place several thicknesses of antiseptic gauze over it, and to treat the wound as you would treat any surgical wound, and so protect it until cicatrization has become complete. In the Section on State Medicine there was reported a death from tetanus. Dr. Sternberg was present and said that the germs of that disease were not injected into the system by the operation, but taken into the system during the subsequent healing of the wound. I hope this will be impressed upon all.

As to the size of the vaccination, it is better to have three or four small cuts than one large one.

DR. JULIA W. CARPENTER, Cincinnati, Ohio.—Two persons have asked me where I vaccinate. When anyone prefers it, on the leg, but I do not select that situation, on account of the motion there. I believe the best place is on the arm, quite near the shoulder. If done at the insertion of the deltoid it is not so easily concealed.

DR. GEORGE C. WORTHINGTON, Baltimore, Md., charged with causing the death of Clara Lockerman, by a criminal operation, was acquitted after a jury trial at Ellicott City, Md., September 20.

RELATION OF URIC ACID TO MIGRAINE.*

BY JOHN A. LICHTY, M.Ph., M.D.
PITTSBURG, PA.

It is not strange that the causal relation of uric acid to migraine has repeatedly suggested itself to the minds of physicians, for the etiology of migraine has always been to the clinician what the origin and significance of uric acid has been to the physiologic chemist—a matter of speculation.

The enthusiasm which has arisen in the past decade or more in the study of the secretions and excretions of the living organism, has again awakened investigations referring to the effect of uric acid on the human body, and its relations to disease. So thorough has been this awakening that the foundation principles of pathology and therapeutics seem to have been threatened. Diseases, the etiology and pathology of which were thought to be beyond question, are now considered with reference to uric acid formation. Remedies which were formerly given because they overcame disease, are now given because they counteract the formation, and increase the elimination of uric acid.

Among the many diseases which have been etiologically considered with reference to uric acid, may be mentioned rheumatism, gout, migraine, epilepsy, asthma, and melancholia. Some investigators have become so impressed with the effect of uric acid on the human system that they have attempted to account for a man's disposition, his emotions, and even his character, by referring to the amount of uric acid which he retains in his system. It would seem from the writings of some that philosophy and religion, as well as medicine, would have to be considered anew from the standpoint of the uric acid diathesis.

The study of the relation of uric acid to migraine has, probably, received the most attention. Migraine has been called "the uric acid headache," because examinations of the urine, during and after the attack, seemed to show that the normal relation of uric acid to urea had been disturbed. That is, the amount of uric acid excreted, relative to the urea, is increased during the attack, while after the attack it is normal in quantity for a time, or diminished. "The greater the relative excess of uric acid, and the greater its absolute excretion per hour, the more severe the headache." (Haig.) From this it is concluded that uric acid is the cause of migraine.

With this theory in mind, I have for the past three years turned my attention to the study of the urine with special reference to the relation of uric acid and urea, in the cases of migraine which have come under my observation. In order that there may be no misunderstanding in reference to the results obtained, it will be necessary for me to describe briefly the methods employed in this study.

For the estimation of urea, Liebig's method was employed, which, though not as reliable as Kjeldahl's, for clinical purposes is deemed sufficiently accurate. The uric acid was estimated according to Hopkin's method, described by Von Jaksch, in his "Clinical Diagnosis," with this modification, however. Instead of titrating with the unstable potassium permanganate solution, a decinormal solution of sulphuric acid was used, with methyl orange as the indicator. This was suggested to me by a private student from the laboratory of physiologic chemistry, directed by Dr. E. C. Herter, of the University of Berlin, and has been found to be reliable.

The urine was collected at the severest period of the headache, and quantitative estimates were made for uric acid and urea. After the headache had entirely disappeared, the urine was collected for the same length of time as before, and subjected to the same analysis. Comparisons were then made between the relation of the uric acid and urea of these two analyses.

The patient was instructed when the headache began, to save the urine of each urination in separate vessels during the entire period of the attack. From these numerous specimens, the one which was voided at the time of the greatest intensity of the headache, was selected for chemical investigation. After the headache had entirely disappeared, the second specimen was collected.

It was thought that if these headaches were due to a uric acid disturbance, it ought to be manifest in the urine at the height of the attack; and, on the other hand, that if the uric acid disturbance which so many investigators have found associated with the headaches, was a result of the attack, it ought to be manifest immediately after the headache had disappeared.

Of the investigations conducted in this way the report of three cases will be sufficient.

CASE 1.—Miss H., aged 40, a bookkeeper, has had dull, constant headache from childhood, which, at about 20 years of age, developed into paroxysms beginning over the right eye. The headaches, which are very severe, seem to be induced by overwork, or by slight colds. They are likely to occur during the menstrual periods, which have been frequent and profuse for the past ten years, but occur also at other times. Aside from the headaches, she gives symptoms of neurasthenia, but more of digestive disturbance. She has never had a serious illness. Her mother was subject to headaches, though not of the same nature, and had rheumatoid arthritis, slightly. She is pale, and sallow and weighs 138 pounds, but has no physical signs other than relaxed abdominal walls, and a right movable kidney. Blood examination: hemoglobin, 45 per cent., red blood-corpuscles, 4,600,000, numerous poikilocytes.

URINE ANALYSES.

Time.	Amt. c.c.	Sp. Grav.	Reacti'n.	Color.	Urea gm.	Uric Acid. gm.	Ratio.
Dec. 28, 1896, between attacks.	100	1024	Acid.	Amber.	2.312	0.0327	1-70
Jan. 9, 1897, height of attack.	100	1002	Neutral.	Pale.	0.3316	0.005	1-66
Jan. 9, 1897, after attack . . .	100	1025	Alkaline.	Pale.	2.43	0.1512	1-16
Jan. 12, 1897, height of attack	100	1006	Alkaline.	Pale.	0.718	0.006	1-12
Jan. 12, 1897, after attack . .	100	1019	Acid.	Amber.	1.57	0.03	1-52
Jan. 29, 1897, height of attack.	100	1017	Acid.	. . . .	1.61	0.0317	1-50
Jan. 29, 1897, after attack . .	100	1006	Acid.	. . . .	0.68	0.0185	1-36

A mixed diet, and also nine glasses of milk a day, were prescribed, and phosphate of soda was given three times a day. At the end of a month there was no abatement of the headaches, and the anemia was increased: hemoglobin 40 per cent., red blood-corpuscles, 4,000,000. The milk was then discontinued and salicylate of soda and Blaud's pills prescribed. At the end of three months the headaches were not as frequent, nor nearly so severe. The anemia had disappeared, hemoglobin, 87 per cent., red blood-corpuscles, 6,160,000.

The patient then took up her work as bookkeeper, and at the end of a year the headaches had increased in frequency and severity. The blood again showed a slight degree of anemia. A diet, consisting almost wholly of vegetables and cereals was then prescribed, and continued for four months, but the headaches were more frequent than before. A milk diet was then prescribed,

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

with most disastrous effects, the headaches being more severe than ever.

URINE ANALYSES.

Time.	Amt. c.c.	Sp. Grav	Reaction.	Color.	Urea. gm.	Uric Acid. gm.	Ratio.
Feb. 16, 1899, height of attack	100	1002	Acid.	Pale.	0.26	0.0584	1-30
Feb. 16, 1899, directly after attack	100	1002	Acid.	Amber.	0 48	0.0285	1-16
Feb, 17, 1899, 18 hrs. after attack	100	1012	Acid.	Amber.	1.53	0 042	1-36

The patient was again given a wholly vegetable diet, and salicylate of soda was taken three times a day. This was continued for two months, during which time the headaches were as severe and as frequent as when first seen two years previously. The anemia also increased: hemoglobin, 68 per cent., red blood-corpuscles, 5,140,000. A mixed diet, meat two or three times a day, was then prescribed, when the headaches became decidedly less frequent, and the patient improved greatly in general health. This condition has continued up to the present time.

CASE 2.—Mrs. R., aged 54, a society woman, has had sick headaches all her life, coming on every week or ten days. The headache always begins on the right side, and is accompanied with nausea and vomiting; she gives a typical description of migraine. Ten years ago she had a double ovariotomy on account of a uterine fibroid, and has not menstruated since. The headaches have continued as before the operation. Her father had similar attacks of headache and a brother is also so afflicted. A physical examination of the patient showed no abnormal signs. Examination of blood: hemoglobin, 100 per cent., red blood-corpuscles, 5, 920,000.

URINE ANALYSES.

Time.	Amt. c.c.	Sp. Grav.	Reaction.	Color.	Urea. gm.	Uric Acid gm.	Ratio.
Aug. 8, 1898, between attacks.	100	1018	Acid.	Pale.	2.058	0.0419	1-49
Aug. 23, 1898, height of attack.	100	1008	Acid.	Pale.	0.92	0 00672	1-136
Aug. 23, 1898, after attack.	100	1014	Acid	Amber.	1.54	0.0436	1-35

This patient was allowed to take a vegetable diet. Salicylate of soda in 5-grain doses was given three times a day. At the end of two weeks a second headache occurred, which was mild; in two weeks more, a third attack, very mild; in two weeks again, only suggestion of a headache, and thereafter, no headache at all. At this time the blood examination was as follows: hemoglobin, 93 per cent., red blood-corpuscles, 5,840,000. This condition continued for six months. Social duties were again undertaken, and the headaches became almost as frequent as before, though not nearly as severe.

CASE 3.—Mrs. F., aged 40, complains of a frontal headache, accompanied with nausea and vomiting. The attacks occur every seven or ten days. She has had these headaches since early childhood, has always had obstinate constipation, but no hereditary history of migraine. The patient is pale, and very nervous; tongue, heavily coated; pulse, 96; no valvular heart disease; has hemorrhoids and retroversion of the uterus. Blood examination: hemoglobin, 83 per cent., red blood- corpuscles, 5,520,000.

URINE ANALYSES.

Time.	Amt. c.c.	Sp. Grav.	Reacti'n.	Color.	Urea. gm.	Uric Acid. gm.	Ratio.
Oct. 19, 1898, between attacks.	100	1010	Acid.	Pale.	1.13	0 025	1-45
Nov. 7, 1898, height of attack.	100	1016	Alkaline	Pale.	1.22	0.028	1-42
Nov. 7, 1898, after attack.	100	1020	Acid.+	Amber.	2 28	0 201	1-11

The patient was allowed a vegetable diet, and salicylate of soda was prescribed in 5-grain doses three times a day. Owing to sickness in the family, which called the patient away, no further observations were made.

It will be seen from the study of these cases: 1, both uric acid and urea were diminished during the height of the headache, but their relation was not disturbed; 2, that after the headache, the urea increased to about what it was between the attacks, while the uric acid increased much more, thus changing the former ratio.

These results differ from those on which the uric acid theory of migraine has been founded, in that the urea has not been found so stable a quantity as the results of other investigators show; and that the uric acid has not been increased during the headache, but, on the other hand, greatly diminished. Immediately following the headache, however, there was a great increase of uric acid.

When in these cases, however, the urine was collected during the whole period of the headache, and after the headache the urine was again collected for the same length of time, and quantitative analyses made of these two collections, the results were found to correspond exactly with those on which the uric acid theory has been founded.

From this it was concluded that the uric acid wave which is immediately associated with migraine does not appear until the latter part of the attack, and is really at its height when the attack is passing off. In other words, the time of the greatest severity of the headache precedes the highest point of the uric acid wave by a period of from two to three or four hours, as the case may be.

If this be true, and all my investigations have confirmed it, then it would seem that the increase of uric acid which is associated with migraine, is the result and not the cause of the headache. This conclusion does not seem unreasonable, when one recalls the decided digestive disturbances which take place during an attack of migraine. Digestion seems to be stopped at once, and nausea and vomiting follow. There is a disgust for food, and the appetite does not return for several days.

The uric acid theory of migraine does not alone depend on what is believed to be an absolute fact; namely, that uric acid is excreted in larger amount, absolutely and relatively to urea, during an attack of headache than at other times, but it is supported by a number of hypotheses which recent research has proved to be untenable.

It is supposed that migraine, being the sensory equivalent of epilepsy, must be due to the same cause as epilepsy, and, partially from the results of chemical analyses, and partially from analogy, it is concluded that epilepsy is due to a uric acid condition. But those who have studied epilepsy more recently from this standpoint, have come to the conclusion that the idea that the epileptic seizure is in any way caused by uric acid poisoning is wholly incorrect, and that the increased uric acid is an entirely secondary phenomenon, dependent on disturbances of digestion and metabolism due to the seizure itself.

It is stated that during an attack of migraine there is an excess of uric acid in the blood, and, as the same condition exists in an attack of gout, therefore migraine and gout must be due to the same cause, uric acid. But recently in the study of sixteen cases of gout by Adolf Magnus-Levy[1], he found that while uric acid in the urine was distinctly increased in nearly all cases of

[1] Zeitsch. f. Klin. Med., B. xxxvi, H. 5-6.

gout, especially during the first day, there was no diminution of alkalinity of the blood, but, in some cases, there was a slight increase of alkalinity. Until such a careful study of the blood is made in migraine, it will be a mere guess to say that there is more uric acid in the blood during the attack than at other times.

Because there is a leucocytosis, similar to that in uric acid diathesis, often present in attacks of migraine, it is concluded, according to the theory of Neusser in reference to the perinuclear basophilic granules, that migraine belongs to that class of diseases commonly called the uric acid diathesis. But a study of fifty cases having the uric acid diathesis, by Charles E. Simon[2], showed that there is no constant relation between the presence of the basophilic granules, and the elimination of uric acid or even of xanthin bases.

In accord with the uric acid theory of migraine, the vasomotor phenomena, the angiopastic, and the angioparetic conditions described by Mollendorf and Latham, have been attributed to a "blocking up of capillaries by colloid uric acid." This is certainly a very ingenious explanation, but failing to confirm it by ophthalmic studies, and by every means at one's command, it is as unsatisfactory an explanation of migraine as the vasomotor neurosis theory, itself.

From these refutations of the hypotheses, on the validity of which depends in a great degree the uric acid theory of migraine, it is concluded that whatever foundation there is for it, the theory must be based on the chemical investigation of the urine. But, as stated heretofore, in studying the urine closely through the attacks of migraine, it was always found that the highest period of the wave of uric acid excretion followed by several hours the period of greatest intensity of the headache. From this it seems evident that the increase of uric acid secretion which is associated with migraine must be the result of the headache, and not the cause of it. It can not be denied that through these studies of uric acid and certain by-products in the urine, we are coming to a closer knowledge of the causation of migraine, but Gower's statement is still applicable: "When all has been said that can be, mystery still envelops the mechanism of migraine."

MIGRAINE*.

BY SAMUEL J. WALKER, M.D.
CHICAGO.

Migraine and headache are commonly considered synonymous terms. Migraine is, however, a distinct disease, the headache being its most pronounced and distressing symptom. In rare cases we may even have migraine without headache. It is undoubtedly the most frequent of all neuroses.

It is my desire to record some of the more striking manifestations of the disease as gathered from an unusually rich clinical experience. I shall base my remarks on the notes taken on fifty consecutive cases, the majority of which are taken from the neurologic clinics of Dr. H. T. Patrick, Chicago.

In looking over the notes, the first important item is the family history, the usual entry being "mother migrainous," "mother and two maternal aunts migrainous," "mother and mother's mother migrainous," "mother and father migrainous," "mother and two sisters migrainous," etc., the disease showing itself in six or seven members of a family in some instances. To be exact there is a distinct history of direct heredity in 40 of the 50 cases. Of the 10 remaining cases, 8 knew little or nothing of parents and family; 2 explicitly said that neither mother nor father had headaches. Throwing out the 8 cases of uncertain history, we have 95.2 per cent. of the cases showing migraine in the family. Such figures are extremely significant. Thus we see that direct heredity easily plays the star rôle in the etiology of migraine. We might almost say that heredity was the *sine qua non* of the disease, the exceptions being only sufficient to prove the rule.

How the disease is transmitted, whether through the blood, or through instability of nerve-cells leads at once into the domain of theory, which has no place in this paper. The whole question of heredity is little understood and vague, and need not be touched on here. Suffice it to say that the pathology of the disease is unknown, no theory so far advanced being able to sufficiently explain all the phenomena of the disease. Moebius, in his monograph on migraine, says that 90 per cent. of his cases—87 in number—gave a history of migraine in the family. With such figures confronting me it is difficult to see how the other conditions so frequently ascribed as causes of migraine can assume any prominence, such as eye strain, deviations of septum, adenoids, pelvic disturbances, gout, rheumatism or lithemia. Because we sometimes see in the same patient adenoids and migraine, eye strain and migraine, indigestion and migraine, pelvic disturbances and migraine, hemorrhoids and migraine, etc., does not prove anything. They are simply coincident conditions. In England, where gout is very prevalent, much weight is ascribed to gout and lithemia as etiologic factors in migraine. In Germany, where there is little gout, Moebius states that he has never seen a case of migraine with gout, or with a family history of gout. Any of these coincident conditions may act as exciting causes, precipitating attacks, making them more severe and frequent.

It goes without saying that all such depraved conditions must be corrected as the first step in any plan of treatment. No modern medical man would to-day think of treating epilepsy, for instance, without first eliminating, so far as possible, all abnormal conditions, which might act as exciting causes of attacks. The best authorities, however, do not claim for an instant that the underlying cause of epilepsy is reflex in character.

With figures so overwhelmingly in favor of direct heredity as the etiologic factor of migraine, the so-called reflex causes assume insignificant proportions. I believe that these figures will assume even larger proportions, the more thoroughly and carefully family histories are elicited. A history of severe paroxysmal headache, extending over a number of years, is highly significant of migraine. Add to this a family history of migraine and the diagnosis is assured. Ophthalmic symptoms and vomiting are unnecessary for the diagnosis. It is always to be remembered, however, that brain tumor, chronic Bright's disease, glaucoma, or any organic lesion may develop in migrainous patients, and are to be excluded by the usual methods.

Authorities differ largely as to the part sex plays in the etiology of the disease. All agree, however, that females are more frequently affected. In Moebius' cases 60 per cent. were females. In Henschens' 140 cases 90 per cent. were females. In my series of 50 cases 80.4 per cent. are females. Of the 40 cases giving a distinct history of direct heredity, in 82 per cent. the inheritance is from the mother's side. Gowers says that in epilepsy

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

more females suffer from the disease when the inheritance is from the mother's side, more males when from the father's side. If the same is true of migraine—the two diseases are certainly closely allied in many respects—it would account for the preponderance of females in my cases.

I now come to what I consider the most striking and practical item elicited from my series of cases. I refer to the age element. According to the notes the first attack occurred at the following ages: 1 to 5 years, inclusive, 4 cases; 6 to 10 years, inclusive, 26 cases; 11 to 15 years, inclusive, 10 cases; 16 to 20 years, inclusive, 4 cases; 21 to 30 years, inclusive, 4 cases; over 30 years, 2 cases. We have then 60 per cent. of the cases beginning at 10 years of age and under; 80 per cent. at 15 and under, and 88 per cent. at 20 years and under. Gowers states that 33 per cent. of the cases begin under 10, and 73 per cent. under 20 years. Moebius, in his monograph, presents a table showing 56 per cent. of 59 cases beginning at 10 years and under.

The most frequent replies to the question as to when the headaches began are: "Ever since I can remember," "since early childhood," and "since childhood." All such cases I have classed as beginning at 10 years or under. Two of the 4 cases classed as beginning at 5 years and under are at present writing only 3 and 3½ years of age, respectively. The other two gave explicit history of beginning at 5 years of age. Such figures are significant and important. They help us understand the nature of the disease, they help us in the diagnosis, and in therapeutics.

When we remember that migraine is exquisitely inherited, and occurs in early childhood in the majority of cases, we certainly have valuable data for diagnosis and treatment. Migraine in children is frequently unrecognized. I saw a case two years ago in a girl 8 years of age. The attacks were frequently ushered in by scintillating scotoma, and were usually concluded by nausea and vomiting. The child's mother and four maternal aunts suffered from severe migraine. Yet this patient had passed through the hands of two competent men without having the nature of the trouble recognized. If such typical attacks are sometimes unrecognized, what becomes of the atypical and rudimentary cases.

Migraine in very young children is an interesting disease. It is my belief that the cyclic vomiting described by Holt, in his recent work on "Diseases of Infancy and Childhood," is migraine. Holt himself says it has many points of resemblance to an attack of migraine. He describes cyclic vomiting as follows: "The disease is characterized by periodical attacks of vomiting, recurring at intervals of weeks or months, without any adequate exciting cause. The vomiting is severe and uncontrollable, and usually lasts from twelve hours to three days. It is attended with symptoms of general prostration, which may be alarming. The children who are subjects of it may show in the interval nearly all the signs of perfect health." He then cites the following case: "The patient was a well-nourished boy of 6 years when he first came under treatment. He belonged to a neurotic family, and the attacks dated back to infancy. From this time they had recurred usually at intervals of a few months; occasionally five or six months would pass without one. The symptoms in all the attacks were similar in kind, differing only in degree. I observed three of them. They were preceded by a prodromal period, lasting from twelve to twenty-four hours, marked by languor, dulness, dark rings under the eyes, loss of appetite, and a general sense of discomfort in the epigastrium. At this time the temperature was generally, but not always, elevated, sometimes to 103 F. The vomiting then began suddenly. It was attended with great retching and distress; it was forcible and often repeated every half hour or hour for two days. On one occasion it occurred seventeen times in a single night. Vomiting was immediately excited by the taking of any food or drink, but it occurred when nothing was taken. The vomited matter consisted of frothy mucus and serum, frequently streaked with blood, apparently from the violence of the emesis. The reaction was strongly acid; sometimes there was bilious vomiting. The temperature usually fell to about 100 F. when the vomiting began, and continued at or below this point throughout the attack. By the end of the second day the exhaustion was very marked—so severe, in fact, as to apparently threaten life. The child lay in a semi-stupor with eyes half open, lips and tongue dry, rousing at times to beg for water. The pulse was rapid and weak, and sometimes slightly irregular. There was no distension of the abdomen; it was usually flattened. By the third day the vomiting became less frequent and then ceased entirely. Convalescence was rapid and by the end of the week the boy was as well as usual."

The neurotic family history, the paroxysmal character of the attacks, extending over a period of years, the prodromal period of languor and loss of appetite, followed by vomiting, mark this history, in my opinion, an undoubted case of migraine. The well-known susceptibility of a child's nervous and physical systems would explain the rise of temperature and the rather prolonged attack.

I also believe that the gastro-enteric lithemia as described by Rachford, in the "American Text-Book of the Diseases of Children," is migraine. Rachford cites the following cases to illustrate the gastro-enteric symptoms of lithemia: The patient, a boy aged 4 years, had a gouty ancestry on both sides. After stating that this little patient had had periodic attacks since infancy, very similar to the attack in Holt's case just cited, Rachford goes on to say: "The point of special interest in this boy's case is that these attacks have changed in character. At the present time vomiting is no longer a prominent symptom. They are now characterized by headache with nausea, and followed by a more or less prolonged narcotism, during which the child falls into a deep sleep, from which he awakens somewhat improved. In brief, one may say that the gastro-intestinal paroxysms of his infancy are being transformed into true migraine. This substitution of one form of lithemic paroxysm for another is quite characteristic of the disease." From this description it is very evident that Rachford considers migraine a symptom of lithemia, a relation which I think needs further evidence to fully substantiate it.

In connection with the above cases the history of the two following cases from my own notes is interesting:

CASE 1.—H. S., male, aged 3½ years; mother has severe migraine and very nervous, father migrainous. For the last two years the baby has had periodic attacks of prostration, complete anorexia, followed in about twelve hours by uncontrollable vomiting; even whey and egg-water were not tolerated by the stomach. In the beginning of the attack there was moderate temperature, 100 to 103 F. The recovery was rapid and complete. Between attacks the child is the picture of health. The attacks are less frequent in spring and summer, the family spending about five months of the year in the country.

CASE 2.—H. F., female, aged 3 years; mother migrainous and very neurotic; father migrainous up to five

years ago. This little patient has had periodic attacks of vomiting and diarrhea for the last eighteen months. The vomiting is preceded by a short period of complete anorexia and prostration, and followed by narcotism that is sometimes alarming, i. e., in the last attack the patient lay in a semi-stupor all one day, a slow convalescence beginning on awakening. The temperature in this case usually ranged from 100 to 102 F. for the first twelve or eighteen hours of the attack; after sleeping, normal.

I consider both these cases migrainous in character, for the following reasons: Mother and father are migrainous in both; in both the attacks are paroxysmal; in both there is unusually good health enjoyed in the intervals; in both no apparent cause for the attacks could be elicited; in both there is prostration and vomiting, and in both the attacks are self-limited. In my opinion the diagnosis of migraine is more than justified; it is assured. It will be interesting to follow these cases, to watch for the development of headache, as occurred in Rachford's cases. In the light of the above illustrations it seems to me that the more carefully we study such cases, the more often will we find manifestations of migraine.

Several other forms of atypical migraine remain to be mentioned. I have in mind a case with the following history: Mrs. W., aged 30 years, mother migrainous. For the last six or eight years has had periodic attacks of weakness, accompanied by dull, deep headache in eyes; no nausea and no vomiting. The slightest noise or jar aggravates the symptoms; even walking makes the patient distinctly worse. She has marked pallor during the attack. Another case of rudimentary form has the following history: A boy, aged 9 years, family history unknown, had sudden periodic attacks of dimness of vision, accompanied by zig-zag flashes of light, lasting about fifteen minutes; this scintillating scotoma ushered in a feeling of discomfort "deep in eyes," lasting a few hours; no headache; no vomiting. Long-continued use of cannabis indica markedly diminished the frequency of the attacks. These are undoubted cases of rudimentary migraine, with the weakness in the one, and in the other the scintillating scotoma as the principal symptoms.

Gowers says that visual disturbances occur in at least one-half of the cases. In my series of 50 cases, only 30 per cent. gave a history of ophthalmic symptoms. The ophthalmic symptoms met with in the 15 cases referred to presented all the variations from simple scotoma to complete hemianopsia with scintillating scotoma. Gowers and Moebius say that the disturbance never amounts to a true hemianopsia, i. e., that the loss of vision in the affected areas of the retinæ is never absolute. They also say that the apparent hemianopsia or scotoma is always double. As this can only be proven in the attacks, my experience is too limited to be of value. Patients usually say the vision is affected in only one eye. The double-sided nature of the disturbance can easily be proven by instructing patients to cover or close the apparently affected eye during an attack.

I report the following interesting history of ophthalmic migraine, through the kindness of Dr. Patrick:

T. C., male, aged 23 years, mother migrainous and one brother with history of headaches, gives a history of severe paroxysmal headache since boyhood. At 17 he had his first attack ushered in by hemianopsia; attacks gradually grew worse. He woke up one night with a feeling of discomfort in the eyes; then distinct hemianopsia developed, right one-half of field gone; added to this was a scintillating scotoma, shaded with color "something like a rainbow." This lasted about twenty minutes, then nausea developed with pain deep in the eyes, through to the occiput and top of the head. Another attack was the same as above, except that the hemianopsia was followed by numbness and tingling in the right hand and elbow; this lasted about fifteen minutes, then the right half of the tongue, lips, and pharynx became numb and tingled; this lasted about five minutes, then the pain grew worse and was followed by vomiting. Finally this patient had an attack similar to the last described, with aphasia added; the aphasia was complete for about one minute; then he began to stutter and speak slowly; as he expresses it, "the words came in crossed." "Thinking one thing and saying something entirely different."

Such severe attacks are fortunately rare. They serve to show, however, the distinct cerebral nature of the disease, and also emphasize the relation between migraine and epilepsy. The relation between the two diseases is obscure, but they certainly have much in common. In both 75 per cent. of all cases begin under 20 years of age. In both the majority of victims are females. In both the pathology is unknown. In both the attacks are paroxysmal in character, and, finally, we not unfrequently see cases of migraine pass over into epilepsy, the migraine attacks ceasing altogether, or becoming less frequent and severe. Sometimes the epileptic attacks pass over into migraine, the fits ceasing altogether or becoming less frequent and severe. The following history is one of five such occurring in my 50 cases, and well illustrates the relation: Mrs. B., aged 38 years, mother migrainous, was a victim of severe migraine, beginning at 5 years of age. From the twenty-seventh to the twenty-ninth year attacks were unusually severe. About this time she had her first epileptic fit; since, migraine is much less frequent; now, idiopathic epilepsy.

Our routine treatment for migraine is the fluid extract of cannabis indica[1]. The drug is begun in small doses, and gradually increased until some physiologic effect is obtained. It is then continued at a dosage just below that causing physiologic effect for a long time, at least several months or more. There is nearly always some amelioration of symptoms following the exhibition of cannabis indica thus given. If, in addition, patients have the benefit of fresh air and country life, one may promise, of course with reservations, marked diminution in the frequency and severity of attacks. Of course, as touched on before in this paper, all abnormal and depraved conditions must receive their appropriate treatment. No plan of treatment is complete that neglects as unimportant the so-called reflex causes of the disease.

In conclusion I want to make a plea for the more careful study of this most interesting disease, especially of its manifestations as occur in early childhood, and of other atypical types.

BIBLIOGRAPHY.

1. Moebius, P. J.: Die Migrane, B. xii, Nothnagel's Specielle Pathologie und Therapie, 1894.
2. Osler: Practice of Medicine, Edit. iii.
3. Loomis-Thompson: Am. System of Practical Medicine, Vol. iv.
4. Gowers: Diseases of Nervous System, Vol. ii, Edit. ii.
5. Rachford: Am. Text-Book of Diseases of Children, Edit. ii, p. 96.
6. Mills: Am. Text-book of Diseases of Children, Edit. ii, p. 719.
7. Holt; Diseases of Infancy and Childhood, Edit. i, p. 287.
8. Oppenheim: Lehrbuch der Nerven Krankheiten. Edit. i.
9. Sachs: Nervous Diseases of Children.

DISCUSSION.*

EDWARD D. FISHER, New York City—I would begin the discussion of this subject by drawing attention to the importance

[1] It is absolutely necessary that the preparation used be of known activity.

* The papers of Drs. Billings and Risley, in the symposium of which this discussion is a part, appeared last week. Dr. Zenner's paper was printed in abstract, in the JOURNAL of August 26, par. 127, p. 537.

of two essential conditions in headache, i. e., a persistent continuous headache and an evanescent, paroxysmal or periodical headache.

The first form, that is, one which is ever present, although it may be subject to paroxysmal exacerbations, is always indicative of an organic lesion as the cause, or to permanent blood changes or diatheses, as syphilis, gout, uremia, lead, etc., while the latter or paroxysmal type is indicative of transitory physical conditions, as overfatigue, indigestion or auto-infection, excesses, as in alcohol, tobacco, etc.

In the first class, therefore, we are considering a symptom of far greater importance as to the ultimate result to the patient's future than in the second class, as in the former death may be the only possible result; whereas, in the latter, while the suffering may be as intense or even more so, the danger to life is small.

The significance of persistent headache is the fact, therefore, that it points to a fixed organic disease somewhere in the system. The most important and those which we learn daily to take into consideration are diseases of the dura mater, i. e., pachymeningitis. The pia mater, unless it involves the dura mater, causes no pain when the subject of disease. The primary disease may indeed be of pial origin, but if pain is of a marked character, it necessarily implies that it has involved the dura mater secondarily.

The commonest causes of headache due to pachymeningitis are suppuration of the cranial bones, either following injury or disease, as syphilis, tuberculosis, tumor or, again and especially, otitis media.

In epidemic cerebrospinal meningitis, simple and tubercular meningitis, we have sufficient exudation thrown out to explain, by pressure, the presence of pain. Outside of such conditions and localized injuries to the skull, involving its membranes near the surface, the localization of the headache is rarely indicative of the site of the disease or lesion.

Tumors of the brain can not usually, except under the conditions I have referred to, ever be located by the situation of the pain. Occipital pain does not necessarily mean, with all the other symptoms of cerebral tumor—abscess—present, such as general convulsions, stupor and optic neuritis, a tumor of the cerebellum. In a case reported by me some years ago, with the general symptoms of cerebral tumor as above given, the pain was most intense and agonizing over the frontal lobe, and as this was the only localizing symptom as to the situation of the tumor, we operated at this point, yet post-mortem revealed the tumor in the cerebellum.

More important to the general physician as diagnostic of organic disease of the brain then, as shown by injury, suppuration, ear disease or tumor, as these give other symptoms which often naturally lead to a diagnosis, is the importance of persistent headache as pointing to arterial disease, i. e., arteriosclerosis, dependent on some dyscrasia as Bright's disease, diabetes, gout, syphilis, lead, etc. In these cases we rarely have a localized cephalalgia. It is usually general and more subacute than acute, combined with a feeling of compression. This form, unless in the very young, where anemia is the most frequent cause, almost invariably points to degenerative changes in the blood-vessels. It is the premonitory symptom of apoplexy or cerebral softening.

Persistent headache, therefore, is always of great importance, as indicating organic disease of the brain and membranes. In children, as in adults, its significance should never be lost sight of. It always means, in the young, either anemia, meningeal or brain disease, eye strain, or again some chronic inflammation of the middle ear. In the so-called functional headaches, characterized by their being paroxysmal, periodical and short-lived in their attacks, we must always look for some local cause.

Here come in the factors of heredity with lithemic states, temporarily brought to a point of excitability by too free use of certain articles of diet, as sugar, nitrogenous food stuffs, etc., or again by retention in the blood of certain poisons, the result of auto-infection. The headache of acute uremia is an example of this form, or the sick headache or migraine. Tic douloureux I *do not* include in this list, as here we are probably dealing with degenerative neuritis.

I have only tried to emphasize the importance of the presence of a persistent headache as always indicative of organic changes. As a symptom, it should never be ignored, and especially is it of importance in the chronic conditions represented by diseases of the cerebral vessels. It is in this class of cases that the general practitioner is most apt to see it, and the one also which he is especially calculated to take under his own care.

Headache is too often referred to the specialist on nervous diseases, while it more properly belongs to the student of general medicine. While the so-called nerve specialist is more in touch with the general practitioner than any other of the so-called specialists, being called on to study all diseases of the various organs of the body, still I, in closing, must emphasize the fact that headache is not a disease per se, as pneumonia, but is simply a symptom of a variety of diseases of the body as a whole, which the general practitioner is best fitted to understand.

DR. NORMAN BRIDGE, Los Angeles, Cal.—The papers have covered the subject of headache very thoroughly, in most particulars, and leave very little to be desired.

I assume that Dr. Fisher did not mean to say that any headache was utterly and completely continuous. I believe that is not the case anywhere, except for a little time. The migraines are not continuous; certainly the headaches due to meningitis are paroxysmal, the headaches due to nephritis are certainly paroxysmal, and so on; but I presume that he used the word "continuous" in that sense. I was a little surprised that Dr. Fisher, in speaking of headaches produced by things swallowed—by things imbibed—referred only to the different foods, excess of food, etc., as being capable of producing headaches. What he said is true, but it seems to me that most of such headaches are produced by tea, coffee and tobacco.

Dr. Billings referred to that fact in his paper. What Dr. Billings said is certainly correct, that the headaches produced by gastro-intestinal troubles are less due to disturbances of the gastro-intestinal mucous membrane than to the predisposition. People who have no predisposition to headache, hereditary or otherwise, may indulge in great excesses in the way of eating and drinking, and great irregularities, and have excessive gastro-intestinal irritation without having any headaches at all. The hereditary predisposition, as Dr. Walker said, is the larger part of the causation.

I was glad to hear Dr. Walker say that headache is only one of the symptoms of migraine. I do not think he emphasizes so much as he might safely have done, the various changes that take place in migraine during the march of time. In cases of this kind there is a change in the symptomatology of the migraine every half day. A symptom may be absent for the first fifteen years of migraine, only to occur for five or ten years, and then disappear again. Then the headache phase may be very pronounced in the early period of migraine, to grow less as the years go, and disappear entirely toward the middle period of life, and the paroxysms be represented by various other explosions, like diarrheas. It may also be shown, and is occasionally, in these patients, by the sole symptom of increased urination—diuresis.

Ninety-five per cent. of all cases of migraine are helped somewhat by stopping the use of tea, coffee and tobacco, and I should say that the agent that is most responsible for the aggravation of the symptoms is coffee, next would be tobacco, and the least of all is tea. But the migrainous patient may, after a period of susceptibility to the influence of coffee and these other agents, pass out of that susceptibility, and be able to take these substances regularly without any discomfort or harm.

The thing that did surprise me in Dr. Walker's paper was that he characterized so positively the relation that he assumes to subsist between migraine and epilepsy. Analogy I concede; it is clear and certain; each is a disease that is paroxysmal, and each is a disease that is largely incurable, and so on; but that they are convertible one into another is certainly new in my observation of migraine. I have searched for a long series of years, without success, for a case that illustrated it in any degree whatever. The case related by Dr. Walker does not seem to me sufficient to prove any nexus between the two diseases. It does seem to me that patients with migraine are especially free from tendencies toward epilepsy; that the disease somehow apparently protects them from other diseases of the body. That is the only comfort that the migrainous patient can have that I know of.

The paper on the relation of headache to the uric acid theory is certainly a most interesting and instructive one. My own belief has been heretofore that there was no relation between migraine and uric acid diathesis. I know that expression is not very scientific; at any rate, it is an expression for a condition about which doctors and the best pathologists seem to be in more or less dispute. Certainly the theories of the English authors quoted by Dr. Lichty have very little weight, for Haig is a great doctrinaire, and I can not make his theories seem rational to my mind.

This, however, is true: he shows in his paper that salicylate of sodium lessens the headaches in some of these patients; he showed how various other treatments did not lessen them. Salicylate of soda he would call an anti-gouty medicine. I would suggest that he try simple bicarbonate of soda in these

cases, and see if it does not produce just as wonderful results, and if it does, as it has under my own observation, it seems as if it gives us warrant in believing in the existence of a diathesis of some sort that is amenable to this kind of treatment; whether it is to be called the uric acid diathesis, whether the mischief is in the particular directions that these authors say or not, there is some diathesis of that sort that can be treated in these ways with benefit to the patient. I confess that I have rarely given the alkaline treatment in the pure migraines, but in the headaches produced or aggravated by gastro-intestinal disturbance I have in the last two or three years given considerable doses of bicarbonate of soda with marked improvement. The doses were taken half an hour before a meal, and the meal was selected that was most likely to be followed with acid eructations; usually the largest meal in the day. These patients have had less headache and gastro-intestinal disturbance. There is no question as to the relation between their feelings and the medicine; the only question is whether the alkaline treatment improved the digestion, improved the condition of the stomach by enabling it perhaps to manufacture better gastric juice or better peptic properties for digestion, or whether the alkali actually corrected, in some degree, this suppositive diathesis. Not only have I seen the headaches improved, but in a few instances I have tried this in those curious recurring diarrheas that are migrainous, that is, occurring in migrainous patients at a time in their life when the headache paroxysms have ceased to exist, and while the patient knew from experience that when a diarrhea had come on it would last from two to three weeks; in spite of all the regulation and diet possible, and in spite of bismuth and other remedies for irritation of the bowels, it promptly improved on giving the patient these large doses of bicarbonate of soda. I am bound to say that in addition to this some saline laxative was given at the same time; not enough to catharticize the patient, but enough to give a slight laxative effect; it did not seem to matter which laxative was used. The alkaline treatment seems to have a pronounced effect on these cases, and a most interesting suggestion as to the so-called uric acid diathesis, not merely as to the diathesis per se, but the diatheseis as perhaps influencing the headaches, and possibly the migrainous headache.

What Dr. Zenner of Cincinnati said in reference to the mental effects in the headache is certainly very interesting. I would only say that it seems to me that it is not entirely necessary to assume that the surgical operations relieve the headaches in the cases referred to by mental impression. They may have done so in the cases related. But we know that a surgical operation does interrupt and intercept various nervous phenomena for a limited time, unexpectedly, and frequently under circumstances that make it impossible and perhaps unfair to assume that mental impression is instrumental in producing symptoms. The patient takes ether or chloroform; he suffers a wound, and when he comes to himself he has a dressing on, and he is in bed, and he has, perhaps, before the operation received extensive catharsis, and afterward is kept on a low diet, and kept quiet and free from disturbing circumstances, and so in this way the surgical operations may produce these changes without assuming that the effect is a mental one. I believe that a patient may be taught to ignore, to a considerable degree, a moderate headache, to be philosophic about it and pay no attention to it, and thus soon cease to feel it. We should always encourage the sick to do this as far as possible.

DR. L. B. TUCKERMAN, Cleveland, Ohio—I came here for a personal interest, for, further back than I can remember, I have been a sufferer from paroxysmal headache. I am in doubt yet, even after this full discussion, whether it is rheumatic headache, or hereditary headache, or due to eye strain, or intestinal complications, or what not. When I first had it as a child it was called a bilious headache, and it was my father's habit to administer Ayer's pills to me when it came on. I had an idea that it was hereditary: my father, my mother, my mother's mother and grandmother had it. My mother's grandmother died at the mature age of 102; her mother at 82, and my mother is still living. In relation to epilepsy, although every member of my mother's family has had headaches as I have them, there is not a member of the family, so far as I know, who has ever been the subject of epilepsy. There has not been a generation in the family, however, but what in certain conditions of headache or fever are sleep-walkers or sleep-talkers. I can remember as a child that, as the paroxysm came on, although I did not fall asleep, it seemed to me that the bed was aching, and my desire was only to get the bed into a more comfortable position! To-day, in the paroxysms of headache I can not lie down until it is over.

I have thought that this headache was rheumatic, because my father and mother had rheumatism, and I have occasional attacks of it, and I have noticed that when the headache or the pain passes into the back in a sort of lumbago, the headache ceases, but the attacks come on pretty promptly.

When this question of eye strain came out, I got glasses, but I have headache yet. There is one symptom that I have noticed that has not been mentioned: at the expiration of every attack of headache, so far as I can remember, the critical point in the subsidence of the headache was the discharge from the bowels of an intensely acrid, scalding substance, which has been producing pain which is almost dysenteric. I have settled now on sitting up with my feet to an open fire, if it is winter, and drinking all the hot water I can get down, and it does as well as any remedies I have thus far tried.

DR. CHURCH, Chicago—I must express my gratification that the subject of migraine has been thus handled, because it is important that it be recognized as something distinct from a headache. It strikes me that it is of all the neuroses the one which is the most true to itself in its manifestations. It has an intimate connection with epilepsy. The cases reported by Dr. Walker, and a similar case reported by the doctor from Philadelphia, half a dozen reported in *Brain*, last year, half a dozen which I have seen myself, have left in my mind not the slightest doubt that there is a germane relation between these two neuroses. It is not unusual to find, in the same family, certain individuals presenting migraine and others presenting epilepsy. The onset of epilepsy in the developmental period of life, and the onset of migraine in the same period, serve to confirm this idea. In women, at the cessation of the menstrual activities, migraine almost invariably ceases. In men there is, as a rule, in my experience, and from the best recollection of my case-book, a tendency for migraine to cease after the age of 60. It is one of the manifestations of a stress of life acting on an organization not quite up to bearing these strains.

I have observed that migraine is likely to occur during the period from 5 to 8, when the eyes are first used in learning to read; but many of those cases present no difficulties in the eyes, or the correction of such difficulties does not relieve the symptoms. I was surprised to hear Dr. Bridge say that he had not noticed this relation between epilepsy and migraine, because there is scarcely six months passes in which I do not see an instance of this sort.

In reference to the action of the mind in regard to the management of headaches, I feel, as Dr. Bridge has already expressed, that in the two cases of cerebral tumor subjected to operation, there were many elements entering into this besides the actual operation. The opening of the bowels, the surgical blood-letting, and so on, might have that effect, just as a number of doses of iodid might have it.

DR. CHARLES H. HUGHES, St. Louis, Mo.—I wish to record my skeptical views in regard to the attributed causes of migraine or headache. I do not believe that any of the theories are tenable for the development of headache symptoms that we ordinarily encounter. I do not believe that headache and epilepsy are at all associated diseases.

In regard to the longevity of headaches, headaches have been common in my family for several generations back; my father used to have headaches, my mother, my mother's mother and father, my grandfather and my great grandfather. There are, however, no records of any epilepsy in the family, or any other neurosis. All the members of the family have attained a very advanced age.

I had headache recurring during every month, the result of brain strain, because I paid no regard to the laws of psychic recuperation. It was my custom to drink from one to three quarts of strong coffee a day, far into the night, in order to prevent sleep, on the old supposition that the brain was not dependent on the organization, and that the amount of labor you could perform was a question of will-power. My headaches came on one day in the month, and disabled me for one whole day. I had to retire to a darkened room, and wait until recuperation came about, and it was one of the most conservative processes of nature that I have ever had the good fortune to have before me, for it saved my life in that way.

I do not believe the uric acid diathesis has any more to do with migraine than any other case. It is certainly not the exclusive cause; it may be one of a number. Migraine is dependent on the sources of irritation and nerve exhaustion, and these may be as varied as the causes of pain in any other part of the system.

DR. JOSEPH V. KOFRON, Cleveland, Ohio—I have had a little experience in headaches in children. I particularly remember one case in which I was called after the family physician had been away for some time, to see a girl about 8 years old, and they told me she had headaches very often; every two weeks she had to lie in bed a day or two, and the doctor gave her a

cathartic, and she was all right again. It occurred to me to look into the throat of that child, although she did not complain of it at all. I found a very inflamed tonsil, which I treated, and she has had no headaches for six months. She still, however, has occasional attacks when she does not feel well, probably for a number of hours during the day.

It struck me that in some of these cases where there had been fever, which we notice is particularly high in tonsillitis, and vomiting and other severe symptoms, tonsillitis might be the cause. Personally I feel that tonsillitis is often the cause of headache in children.

DR. A. E. STERN—It seems to me that we can not generalize too much on this subject. I believe that almost every individual class of cases can be separated, and some cause found for the existing headache; yet even after that cause has been removed there is a secondary state following this old chronic state, whether it is dilatation of the blood-vessels, or whether the stretching of the blood-vessels has gone to such an extent that the vital rubber loses it contractibility, it is a matter of experience that the headaches persist, and it takes a long time for them to disappear. Headaches are usually due to a lack of oxidation. This will seem plain when we consider the complex formula of uric acid.

It seems to me that we have to do here with a lack of oxidation. Whether that is a general metabolic disturbance, whether the metabolism is intrinsically disturbed, or whether we have to deal with split products in the one case, or with chemical change due to certain kinds of invasion, toxic or ptomainic or leukemic or otherwise, is a matter beside the question at the present time.

DR. F. SAVARY PEARCE, Philadelphia—To my mind there is no doubt about heredity being a predisposing cause, and then in addition to that we have the exciting cause, whatever that may be. There are numberless exciting causes for which the broad physician must be on the lookout in order to get the best results. If it is the eye, that should be corrected. The gastro-intestinal tract should receive atention, and every other possible source of irritation should be considered, including the existence of uric acid excretions. In the case mentioned by Dr. Tuckerman, it would be well to have the stools examined, and see whether there is an excess of uric acid or not.

DR. EVANS—The papers on migraine have been extremely interesting, but if they demonstrate one fact it is that the medical profession to-day is in a state of extreme uncertainty as to the causal factors, or at least the most prominent causal factor, in the production of migraine. I do not think that arriving at such a conclusion, even though it should be practically unanimous, should describe the study in a special line. The young, and the older members of the profession, show alike a disposition to find some particular cause along the line of their own special work to explain the production of disease, or to ferret out the real causal factors in the production of certain diseases which afflict the human race. The efforts in this symposium have been along this line.

I am very much interested in the study of epilepsy, and, like migraine, I know very little about the causation; but I am inclined to think that it is a little over-enthusiastic for us to claim that there is such an important relation between migraine and epilepsy. When we take into consideration the fact of the great prevalence of migraine, and how our highly neurotic patients, or patients who are given to various forms of neuropathic manifestations, are likely to have other more serious forms of nervous disease; or, in other words, that since migraine prevails so largely, and there are numerous nervous troubles which are looked on as being developed along with it, we are not justified in saying that we shall have cases of epilepsy coincident with migraine. This is especially true when we consider the large number of cases seen by neurologists in their practice, and then take into consideration the small number of coincident cases.

DR. HUGH T. PATRICK, Chicago—The statement made by Dr. Fisher, that constant headache is generally due to organic disease of the brain or of its envelope, is true. The only modification I wish to make is this, that there are many patients who come complaining of constant headache which, on careful investigation, is found not to be a constant, agonizing headache at all, but rather the neurasthenic discomfort, which is a rather inaccurate phrase to describe the rather multitudinous collection of symptoms known to neurotics.

I should like to support the assertion of Dr. Walker, that there seems to me some relation between migraine and epilepsy. Whether that be simply a community of cause and a similarity of expression, I think none of us can at this time attempt to define. But when one sees in fifty cases of migraine five cases of alternation, or substitution, or partial alternation, that certainly means something. Take for instance a case like this: A woman brought a boy with epilepsy. In inquiring into the family history I found that the mother had had typical attacks of epilepsy to the age of 25, as I remember it now. From that time on, without any treatment, the epilepsy spontaneously ceased. From that time on she began to have what she had never had before, repeated typical attacks of migraine. One case is not much; but when you have seen perhaps half a dozen of these it makes one more thoughtful.

In regard to what Dr. Tuckerman said of his father having died at a very advanced age, still having his migrainous attacks, so far as I know I can not claim the credit of having cured a case of migraine. I will take off my hat any time to the man who can cure migraine. I believe that the oculists occasionally cure it by the correction of ocular defects. Aside from that, I can not recall at this moment an authenticated case of cure of migraine. Women, of course, very frequently lose their pain at the menopause.

I feel it my duty to caution against taking the statements of Haig's book. I feel it my duty, because I hear them repeated so frequently by persons who have not read his book or have read it carelessly, and have taken his assertions for facts. Dr. Haig is under the same obligation that all of us are to prove his assertions, and I submit that so far he has not done so.

DR. E. D. FISHER, New York City—I simply endeavored to speak of the diagnostic importance of headaches. The weight that I wanted to give to my part of the discussion was the distinction between the so-called continuous or strain headaches, and a paroxysmal headache. There is such a thing as a continuous headache, a constant one, which is present in such cases as I referred to, as Bright's disease or nephritis, and again I wanted to insist on the point of the continuous quality of headache in arterial disease. In all of these continuous headaches, of course, we have exacerbations of pain. We must look to the diseases underlying such conditions whenever we have a continuous headache. There is some fundamental disease, like diabetes, or Bright's, or some growth.

In regard to the relation of epilepsy and migraine, I never could see any distinct connection. The class of patients subject to migraine and those that are subject to epilepsy are absolutely distinct. We are not dealing with the same thing, but the discussion of the point is very valuable.

I wish to emphasize what Dr. Patrick said in regard to Dr. Haig's conclusions. I never have agreed with them.

DR. S. J. WALKER, Chicago—I think it unnecessary to advert again to what I have said in my paper in regard to the relation between epilepsy and migraine. I simply suggested that there might be some such relation, and made no positive statement.

As for the explanation of fever in several of the cases I reported in young people, children react more easily to all sorts of influences, and this would account, in the case which I reported under 5 years, for the temperature. Gowers says that frequently in children migraine is accompanied by fever.

DR. J. A. LICHTY, Clifton Springs, N. Y.—I am very glad Dr. Patrick has made the explanation in regard to continuous headache, for I have had several cases of a similar character.

As to Dr. Haig's book, I can readily indorse all that has been said as to its character. It reads almost like a novel. I studied it carefully before I began my investigation, and the more I studied it the more I found that he did not prove his point.

As to the menopause and migraine, Dr. Haig proves his position against everything by saying that, because during the menstrual period there is an excess of uric acid, hence after the cessation of menstruation the migraine disappears.

In reference to the treatment, Dr. Bridge probably attached more to my treatment than I intended. I simply gave salicylate of soda, because Haig had said it would do such and such things; I had no confidence in it at all. The first case in which I put the patient on the diet of Haig got worse and when I changed the diet, and gave most anything, he improved. In the second case I gave a low diet without reference to uric acid, and also salicylate of soda, and the headache improved and, in fact, disappeared. I do not believe that the salicylate of soda had very much to do with these cases; I think that in nearly every case it was the hygiene and the diet. While I think Dr. Patrick is right in saying that migraine can not be cured, yet in about twenty-five cases which I have watched in the last few years, I have had very satisfactory results by watching the diet and paying attention to hygiene. I had a patient come to me two months ago, who had a severe attack of migraine. I gave her no medicine at all, but I told her to drink lots of water. She was away from her family, who seemed rather irritating to her, and she has not had an attack since.

DR. PHILIP ZENNER, Cincinnati, Ohio—As regards those two

cases which we referred to several times, my only object was to show that one is often mistaken in the supposed cause and manner of treatment of headache, but that the mental element was really the cause in those two cases was shown by their being very susceptible to suggestion. For instance, one of the patients could be relieved of her pain by a drop of sugar water, and so on. All those things indicated the power of suggestion, and it is quite probable that that was also the result of suggestion. My object was to show how one is led astray in a conclusion of that kind.

One word as to the relation of migraine and epilepsy: I suppose there is some relationship between all nervous diseases: I can hardly believe there is a greater relationship between these two. The two are so different; the one is a benign disease, the other is malignant; the one terminates in recovery, it does the patient no harm, it does not interrupt the patient's mental processes; the other, with few exceptions, continues to get worse until the end, and usually, in the great majority of cases, damages the mind. Now that the two might occur together is not surprising, both being such very common things, and that with the occurrence of epilepsy migraine should cease is not astonishing, because the occurrence of epilepsy itself has an effect on other disease. It may be that there is in some instances, in rare individuals, a closer relationship. It was said for some time, and possibly is believed yet, that some forms of migraine are directly related to paresis, that they finally terminate in paresis, and that may be true in some instances. It may be that it shows either an existing disease or a tendency in those individuals, and it is just possible that in certain individuals such a relation between epilepsy and migraine occurs. But the more clinical aspects as they appear to us, do not indicate such a relation to my mind.

THE DOUCHE.

ITS RISE AND DECLINE, BUT PRESENT RESTORATION.

BY FRANK A. STAHL, M.D.
INSTRUCTOR IN OBSTETRICS, RUSH MEDICAL COLLEGE.
CHICAGO.

(Concluded from Page 781.)

So far as bacteriologic conclusion may be an index, the following table from Krönig's paper is of interest. Of his 221 cases, 103 were neither examined internally nor douched. Of these he tells us 59 had pathologic secretions, 44 had normal. Now, it would seem that the 59 pathologic-secretion cases would show the greater morbidity; but not so, for of the 59 cases with pathologic secretion, 18 sickened, 30.5 per cent.; and of the 44 cases with normal secretion, 20 sickened, 45.3 per cent. *One can conclude either way.*

There is another point that must be considered. Some maternity gentlemen speak of their cases as if without the douche. Yet every patient, before she goes into labor, is bathed, soaped, and cleansed, in many cases as never before. Have not the genitals partaken in the process? Certainly, for upon the externals special effort is spent; whether or not it is intended, as she breathes in the bath the vagina is flooded; like in the Talmudic dipping, there is an involuntary douching of the vagina. It is not the large quantity of soap or antiseptics that is essential, it is the large amount of water, clean and changeable, running water. The cleansing, stimulating bactericidal action of running water is a fundamental principle in hygiene, seen in all nature.

Though this may be a digression, yet it is opportune. The celebrated Pettenkoffer recognized these purifying qualities of running water, and by directing the mountain stream, the Isar, through his system of multiple canals in Munich, he thus successfully overcame the blighting municipal problem that had for many years cost Munich so dearly from the ravages of sicknesses, like the fevers, and for like reasons the financial and social loss of the large English colony, now in Dresden.

In the douche it is the running water that is of superior value; chemical antiseptics play but the minor assisting rôle. Antiseptics can not be used without the water, they would destroy; but the water alone or with the ancient ash soap will suffice, where chemical antiseptics are not to hand.

As a rule, upon important issues, bacteriologic conclusions based upon bacterial investigation, can as yet show a *greater* number of errors for therapeusis in oracle than verification. More than once the bacteriologist has startled the clinician with his assertions. The outcome has been that the bacteriologist is gladly heard of in research work, but when he concludes in therapeusis the clinician good-humoredly looks skeptical, but gives him a chance, only too often to be disappointed.

In practice and in discussion we have maintained that:

1. The douche is a benefit[4] and to be recommended, both as a prophylactic and as a preventive measure. It cleans; it stimulates; to the genital economy it is bactericidal, for though it may not destroy, it washes away multitudes of micro-organisms; the patient feels refreshed and strengthened after it; it is a splendid antipyretic.

2. Less injury has been done by the douche than by the non-douche principle. Further, ophthalmia neonatorum is surely discouraged by the douche.

3. Repetition, temperature, force, and quantity of the douche must be regulated by the demands of the problem.

4. Perforating wounds of the cheek and lip, continually bathed in the secretions of the mouth, mammary abscesses, these, like the wounds of labor, will heal and will recover; but neither so pleasantly, so perfectly, so promptly, nor with so little systemic reaction as when the douche is intelligently applied.

5. Its beneficial efficacy in the early labor, the abortion, is a fact. Contrary argument would prove but a boomerang.

6. The dangers of the douche have been exaggerated. The extreme danger of possible air emboli in practice bears the same relation to its reported theoretical possibility as is so correctly suggested in the figure of exaggeration, viz., as the molehill to the mountain.

7. The 1894 departure has not overcome; on the contrary, to-day it but strengthens Ahlfeld's auto-infection.

The above expression of position where thought is divided, and which is but a compilatory effort of previous practice and discussion, taken alone certainly would seem individualistic, carrying with it no greater force than appertains to the individual. But this force, surprisingly added thereto by the authentic reports from the last German Gynecological Congress, held in Berlin, May 24-27, 1899, and from so high an authority of scientific thought, and which but a short time before had doubted and now changed from its 1894

[4] Though the hygiene of society may vary with field, town, city, density, etc., individual hygiene is usually the same, that is, he who fosters (or otherwise) cleanliness and freedom from infective quality, if this is true of the individual in the field or the city, that individualism is maintained however the environment may change, therefore, I use the douche as follows:

Antepartum.—In the clean cases, as they are already clean, one douche is given as a prophylactic. I have never seen a case where such a douche normally given, induces dryness of the walls. In the unclean cases, or suspicious cases—douche as indicated.

Intrapartum.—Follow indications. In a short and clean labor, usually none; in a tedious, prolonged labor, where secretion is at first increased by the activities of labor, followed by a hot dry vagina, a douche is cleansing and refreshing; where meconium is in the vagina, or products of maceration; where secretion at first apparently clean, becomes unclean; all unclean or suspicious cases and operative cases—douche as indicated.

Postpartum.—I use the douche twice daily, at 8 A.M. and 8 P.M., as a routine measure for the first week; once a day for the second week. The postpartal douche is best usually either cool or tepid, with about a four-pint volume, always douching the externals first, then introducing the point. Hot water douches in obstetrics, like in gynecology, are to be avoided where possible, because they exhaust. Restriction is indicated by the systemic reaction.

departure, becomes conclusion of considerable weight, and food for more profound consideration than mere desire to controvert.

To avoid extending the limits of this article to too great length, my excerpts of the abstracted Transactions[5] are short, so as to present each individual's position, and to show the individual and general trend of thought and therapeusis. There were presented two principal themes for discussion on the subject of puerperal fever. The first was by Ahlfeld, the champion of auto-infection; the second by Bumm, a champion of the opposition.

THEMES.

Ahlfeld of Marburg states that the definition of puerperal fever can not yet be established, neither from a bacteriologic nor from a clinical standpoint. Besides the streptococcus, there are other micro-organisms able to induce fatal infections, which clinically are not to be differentiated from streptococcus puerperal fever. Without doubt many streptococci may be found in the uterus without betraying the least evidence of their presence. With free drainage the endometrium can purify itself. The knowledge that besides the etiology of a direct invasion of virus into the tissues, another, a " ? form" of origin of childbed fever exists, the development of a disease process outside of the assistance of doctor and midwife, commences to force for itself more recognition.

He refers to the superiority of warm-water, soap and alcohol hand-disinfection over other methods. With the experienced and conscientious application of that method of hand-disinfection, internal examination is without danger. Forms of puerperal fever occur in cases where no examinations were undertaken. The causing germs were either present in the vagina at the time of labor, or had invaded the vagina; like the gonococci, their virulence may be increased after labor. Finger-cots are nothing for general practice. How the germs of the vagina ascend and under what circumstances they carry out their deleterious effects is to be studied. He states that for the last five years, thanks to the introduction of hot-water-soap-alcohol disinfection, he must consider the fever in the main as a consequence of an ascending of vaginal germs. With the preliminary vaginal douche, pathologic vaginal secretion has no importance. If, further, a series of operative labors determines the fact that thereafter the number of temperature-free puerperæ does not materially increase, the thought lies near, that the careful, thorough cleansing of the vagina and frequent repetition of the same is the principal cause of this favorable result.

Bumm of Basel stated that childbed fever is wound fever. It seems of importance to maintain the difference between wound-intoxication and wound-infection. He raises the question as to why the same germs at one time attack the mucous membrane, the next time wander farther, and the third time extend only through the blood. There is as yet no satisfactory knowledge. The severity of the sickness depends especially upon the quality of the infecting agent. The streptococcus which causes fatal sepsis is the same as that one which causes the local endometritis. In comparison we *now* know that the streptococci of wound infection possess *the faculty of changing their biologic properties and their form of growth.* From a clinical standpoint the type of auto-infection maintained by Ahlfeld is open to objection. The danger comes from without. If from contact with septic material highly virulent germs cling to the hands, then even the most thorough disinfection is unreliable. In the rubber gloves, therefore, we possess a most valuable addition to our antiseptic instruments. Our antiseptic methods have had no influence in the development of putrid endometritis. The greater probability here is of an external ascending putrefaction; for this speaks the day-to-day increasing germ contents of the lochiæ during the puerperium, and the often directly observable ascending of the putrefaction. Therefore, douches during parturition will likewise not be of assistance against later putrefaction[6] because an open wound treatment is not to be avoided.

DISCUSSION.

Döderlein of Tübingen differs from Ahlfeld as to the possibility of disinfecting the hands, especially those of the students. In the lisle operating-gloves, the germs accumulate rapidly. He formerly believed that the germs came from the air, but he feels compelled to rectify this and admit that, in part at least, they come from the fingers. On the virulence of the germs depends the ability of the body to cope with them. Bumm is inclined to the opinion that a part of the infections are due to ascending of germs, supported by the observations of Burckhardt that the germ contents of the uterus increase in the puerperium. Winternitz examined 86 cases, and in 80 per cent. found the uterus germ-free in late childbed. The healthy uterine cavity must be therefore germ-free. For all that, germ contents indicate no disease.

Bumm of Basel said that it is true that the results of bacteriologic investigators often contradict each other, yet it is to be remembered that these examinations are unusually difficult, and often undertaken by beginners. Concerning the abdominal cavity, Bumm obtains the same results as Döderlein; the longer the operation, the more germs were present everywhere; the air was found germ-free; all pointed toward the fingers. Bumm, even after alcohol and bichlorid treatment, warns against positive hand-disinfection. Personally, he has returned to antisepsis. The oftener during an operation the hands are washed in sublimate, the better. The body can not overcome the introduced germs if they are septic; if the wound conditions are bad; if operative technic be an imperfect one.

Franz of Halle reported results of bacteriologic examinations to determine the cause of slight increase of temperature in the puerperium. The influence of the gonococcus could not be determined, for in no case could the gonococcus be found alone, without the presence of other bacteria. From his examinations he concludes that in many cases the germs alone can not "condition" the fever, that rather the incomplete discharge of the uterine secretions in connection with the germs is the cause of the fever. As to attributing the slight temperature increases to infection during parturition, bacteriologic investigations hardly afford a satisfactory footing for explanation of temperature increases. The explanation becomes easier if one accepts an infection less during parturition, rather one during the puerperium, therefore a secondary infection of the cavity wound, which the uterus and vagina present in the puerperium.

Fehling of Halle called attention to the little prog-

[5] Centralblatt f. Gynäk., 21, 22, 23, 1899.

[6] In the mammary abscess, during the labor of expelling the pus would the same logic hold true that the douching during its (mammary abscess) parturition would likewise not be of assistance against later putrefaction? Certainly not, if guided by *clinical* facts.

ress that bacteriologic investigation had made in the knowledge of puerperal fever in the past ten years. Of importance in the origin of these slight temperature increases is the clinical examination; this is shown in the 5 to 10 per cent. lower morbidity during the vacation than during the active semester. Examinations with boiled finger-cots during two semesters resulted in a slightly higher morbidity than without the finger-cots. The difference between vacation and semester morbidity, the results of glove examination, suggest that insignificant mechanical conditions in the genital tract must be of importance in the slight temperature increases.

Krönig of Leipsic, like Bumm and Döderlein, finds that alcohol is not a disinfectant; contrary to Bumm, he is of the opinion that the difference between intoxication and infection can not be maintained.

Menge of Leipsic concluded that from the reports of vaginal anaërobe streptococci of obligate nature the justification to douche is not yet to be deduced.

Schauta of Vienna said: "Permit a clinician, after twenty-three years of experience, to mention his conclusions and results. You are acquainted with the poor locality of the Vienna Klinik, its large number of obstetrical cases; because of the large number of clinicists, it necessitates intense utility of the material. If, notwithstanding this, the results can be placed alongside those of the best maternities, it speaks very highly for the antiseptic regulations which are here customary. Out of 20,805 labors, from 1892 to the end of 1898, 1661 fevered (7.9 per cent.); of these 420 were caused by internal disturbances, leaving 1241 puerperal sick (5.9 per cent.). The mortality was 101 (.4 per cent.); of these of non-puerperal causes 47 (.186 per cent.); the remaining 54 (.213 per cent.)." His regulations are disinfection according to Fürbinger, debarring students for the whole semester from pursuing anatomical courses; isolation of all suspicious cases; vaginal douches with 1 per cent. lysol solution, the latter, not to remove the vaginal germs[1], rather to remove the vaginal mucus, replacing this with a layer of disinfecting fluid.

Prochownick of Hamburg stated that the bacteriologic secretion examination *ex utero* is unreliable, of little value for therapeusis, and therefore to be given up in private practice. He mentions his bacteriologic researches with seriously sick puerpera, some of whom died. Among his results he mentions that even in early severe cases, Marmorek's serum proved wholly negative. He likewise recommends digital curage to remove retention.

Koblank of Berlin held that all authors are a unit that streptococci are found in the vagina of pregnant women. Krönig and Menge believe that these are not the usual fakulative anaërobe, but obligate anaërobe bacteria. It is worth remarking that according to Krönig and Menge, obligate anaërobe streptococci are found in the vagina, as also in the pus of purulent peritonitis.

Hofmeier of Würzburg said that one can not blame the clinicians for regarding bacteriologic results with want of confidence, as they are full of contradictions. The bacteriologists seem to possess a short memory. Krönig, a short time ago, stated that there existed no germs in the vagina that can induce fever. Now he finds the obligate anaërobe streptococcus, that may become very dangerous. The premises that the vagina is germ-free, is not proven.

Von Rosthorn of Graz, in a case of apparent sepsis, performed vaginal hysterectomy. At the post-mortem it proved a case of typhus abdominalis. The differential diagnosis was difficult; Widal's test is of great importance. The examination at the time showed streptococci in the cervical secretion, so that the diagnosis, puerperal fever, seemed verified. Marmorek's serum always rendered negative results.

Opitz of Berlin believes also that the glove bacteria originate from the skin. Yet it is likely that one can not attribute the temperature increase in singly examined puerpera to skin germs. Even though it is impossible to make the skin bacteriologically germ-free, it is certain that immediately after the alcohol disinfection the skin surface is germ-free, and with simple short touchings, germs from the deeper parts of the skin can not reach the surface. Probably there are concerned germs carried up from the vulva. It would be wrong to give up our present disinfection technic, so long as we have none better.

Krönig of Leipsic certainly believes *that germs from the vagina in the puerperium can induce infection* and does not believe he has stated the opposite.

Von Franqué of Würzburg believes in the possibility of auto-infection, though, contrary to Ahlfeld, he regards it as occurring relatively seldom. From the standpoint of protecting the parturient from the possibility of harm, douches must be given. Attention is called to coitus shortly before labor; of cases examined by the husband and others. The vaginal douche characterizes itself as a prophylactic measure.

Döderlein of Tübingen thinks the question of judicial (legal) responsibility is certainly very important. In a court case he took the ground that of a personal responsibility on the part of the defendant midwife there could be no question, since we possess no positive disinfecting methods.

Olshausen of Berlin said that clinical experience must be considered. In bacteriology we have experienced too many diappointments. He recommends, therefore, preliminary vaginal disinfection. An auto-infection is to be admitted, though only for few fatal cases.

Bumm, in closing, remarked that the question of hand disinfection is to be decided. To date there is none such. Further, all agree that various forms of streptococci reside in the vagina. Contrary to Hofmeier, Bumm emphasizes the bacteriologic diagnosis. Opposed to Krönig, he maintains a difference between intoxication and infection. The introduction of rubber gloves is not to be insisted upon. Yet they are a valuable acquisition; moreover, they were used by Bischof of Basel twenty-five years ago. Formerly he was an enemy of douches; to-day he acknowledges the more antiseptics the better.

---

[1] It is a pleasure to note, that in my "Treatment of Antemature Labor. (American Gyn. and Obs. Journal, May, 1898), there is expressed a similar sentiment: "Irrigate with . . . solution, not especially for its germicidal effect, but for its cleansing, stimulating and alterative qualities." I still prefer a mild—.5 to 1 per cent.—carbolic solution, as it is not irritating, not opaque, and is stimulating without the irritation necessary for a like stimulation with lysol; this I attribute to its (Carb) volatile property. Mild carbolic solutions do not cause glazing over of a soapy nature or of a coagulative nature, as do some other antiseptics; this should be avoided, as it hinders external excretion and expression; like the emulsifying overcoating property of creolin, it hinders capillary drainage from the deeper tissues.

DR. NELSON M. BLACK, who has been with the Eighth Army Corps as captain and assistant-surgeon in the Philippines, returned with his regiment, 1st North Dakota Vols., August 1. He is now associated with Dr. H. V. Würdemann, Milwaukee, Wis., with whom he practiced before entering the army.

Therapeutics.

The Use of Iron in Chlorosis.

With reference to the use of iron in the treatment of chlorosis Nothnagel prefers Blaud's pills and the tincture of chlorid of iron. It is the opinion of the majority of clinicians, however, that the preparation of iron employed will depend largely on individual conditions.

The following is an outline of treatment strongly advocated by Sir Andrew Clark. With careful attention to the diet and a tepid sponge bath, followed by brisk toweling night and morning, he prescribed the following mixture:

℞ Ferri sulphatis.....gr. xxiv
Magnesii sulphatis.....℥vi
Acidi sulphurici aromatici.....℥i
Tinct. zingib.....℥ii
Infusi gentian comp. vel quassiæ.....℥viii
M. Sig. One-sixth part twice daily, about 11 and 6 o'clock.

Occasionally this acid mixture produces nausea, dries the skin, and is otherwise ill borne. In such cases the following alkaline mixture is employed:

℞ Ferri sulphatis.....gr. xxiv
Sodii bicarb.....℥ii
Sodii sulphatis.....℥vi
Tinct. zingib.....℥ii
Spiritus chloroformi.....℥i
Infusi quassiæ.....℥viii
M. Sig. One-sixth part twice daily at 11 and 6 o'clock.

The large doses in both of the above prescriptions will hardly be acceptable in this country, but they can be reduced by using less of the infusion, which will but slightly change the therapeutic value of the formulæ.

In case neither mixture agrees with the patient, a sulphate of iron pill is given with each meal and a saline aperient on awaking in the morning, while two or three times a week the patient should take a pill of aloes, myrrh and iron.

Quincke, writing in *La Presse Med.*, some time ago, said that in the treatment of this disease with ferruginous remedies, the preparations of iron might be divided into five groups: 1, the ferrocyanides, which have no action; 2, the blood from an organism of the same species, which may be useful during a certain period; 3, hemoglobin in solution, which probably penetrates rapidly into the circulation and is assimilated; 4, the ferruginous salts of vegetable acids, which, at least by subcutaneous injection, are taken up by the circulation and deposited in the liver; 5, insoluble preparations and ferric-oxid salts, which dissolve in the stomach and later form albuminates and absorbable iron. Blaud's pills and acid lactate of iron have seemed to be most active in chlorosis. A daily dose of 1 to 1¾ grains is sufficient. For hypodermic injection a 5 per cent. solution of ferric citrate may be used, a quantity containing from 1 to 1¾ grains being injected daily.

It is our opinion that chlorotic cases could be divided into three classes; those in which iron is absolutely useless; those in which it is fairly valuable, and those in which it is an absolute necessity.

THE INDICATIONS FOR BITTERS.

Nearly all chlorotics are dyspeptic and the mere administration of iron is insufficient. Bitters should be administered before meals; combinations similar to the following are useful:

℞ Tinct. gentianæ.....℥vi
Tinct. calumbæ.....℥v
Elixir calisayæ, q. s. ad.....℥viii
M. Sig. Dessertspoonful before each meal.

℞ Tinct. gentianæ.....℥iiss
Tinct. cardamomi comp.....℥ii
Tinct. nucis vomicæ.....℥ii
Infusi quassiæ q. s. ad.....℥viii
M. Sig. Tablespoonful before each meal.

At the end of the meal or half an hour after it, the patient should take a wineglassful of hydrochloric-acid lemonade—3 or 4 parts to 1000.

INTESTINAL ANTISEPTICS.

P. le Gendre advises the administration of intestinal antiseptics in chlorosis accompanied by gastric dilatation. Apropos of this idea may be quoted the interesting results of Townsend, published in the *Boston Med. and Surg. Jour.*, May, 1896: "Summary showing the average gain in hemoglobin per week from the use of various agents: Betanaphtol, 2 grains, three times daily—antisepsis—30 cases, 1.85 per cent.; Blaud's iron pills, 5 grains, three times a day, 31 cases, 5.07 per cent.; catharties alone, 7 cases, lost 1.50 per cent.; twelve cases treated with Blaud's pills after a course of betanaphtol showed an average weekly increase of 6.70 per cent.; 19 cases treated with Blaud's pills without betanaphtol showed an increase of but 4.50 per cent. Series of 28 cases treated during an average period of 4.3 weeks, with 2 grains of betanaphtol, in tablet form, and 5 grains of Blaud's iron pills three times a day. The average gain in hemoglobin per week was 7.9 per cent., the maximum gain being 20 per cent. per week for two weeks in one case, 14 per cent. for three weeks in another, 13 per cent. for four weeks in another, while another patient averaged a gain of 11.4 per cent. per week for five weeks. The average amount of hemoglobin possessed by the patients before beginning the treatment was 48 per cent. After 4.3 weeks of treatment it was 82 per cent. Conclusion: The results of combined treatment are considerably better than those obtained with iron alone, and much better than those obtained with betanaphtol alone."

To Remove Indurated Patches After Eczema and Psoriasis.

When the patches are limited, Unna uses the following formula:

℞ Zinc oxid paste
Resorcin, āā.....℥xi
Ichthyol
Vaselin, āā.....℥xx

When the patches are very extensive, a less energetic mixture is applied:

℞ Zinc oxid paste.....℥lx
Resorcin
Vaselin, āā.....℥xx

A little of this salve is spread on the patch every morning for one or two days until the epidermis commences to loosen, when it is supended and the fall of the flap awaited or an anodyne salve applied.—*Semaine Med.*

Pneumonia.

The following discusssion of the treatment of this disease is taken from *Progressive Medicine* for March, page 386:

Pilocarpin.—Rosenthal after using pilocarpin in nine cases of pneumonia, comes to the conclusion that the drug is not only of no value, but, further, that it is sometimes actually harmful in its effects. Its use is, therefore contraindicated.

Diuretics.—Rensner, believing that the critical sweat in pneumonia has a weakening effect on the organism, endeavored to obviate this by giving diuretics at the time of the crisis. He believes that by the use of caffein with camphor or digitalis he has been able to diminish materially the sweating, the crisis occurring in association with marked diuretics.

Use of Cold.—Mays pleads for the more general use of cold, particularly as local applications, in the treatment of pneumonia. Fussell finds that cold baths give great relief in marked hyperpyrexia. The local application of cold is also of value in relieving pain.

Counter-Irritation.— Stengel, in cases of pneumonia with delayed resolution, advises counter-irritants, active pulmonary exercises, and mentions the fact that there is some evidence to suggest that the production of aseptic abscesses resulting in a leucocytosis may exert a favorable influence on the condition.

Blood Letting.—Maragliano discusses bleeding in pneumonia. Livierato has shown that when there are limited foci of pneumonia, bleeding is followed by a diminution in the oxygen ab-

sorbed, but when the foci are extensive the oxygen absorbed and the arterial tension are considerably increased. Bleeding is particularly indicated in grave toxemia and where there are mechanical disorders of the circulation owing to the consolidation. Toxemia may be combated by digitalis, which antagonizes the bacterial poisons, and with De Renzi's (Parie's) serum, which neutralizes them: but when the toxemia is marked and these means are not at hand, patients should be bled, and the amount of fluid in the circulation increased by intravenous salt injections. When the circulation is disturbed bleeding is also a good remedy, and one need not be hindered from doing this because the pulse is small and irregular; according to Niemeyer, it is just in these cases that it should be employed. Bleeding, then, is an occasional and not a regular method of treatment. The quantity of blood taken at each bleeding should vary from one-fiftieth to one-tenth of the total amount.

PNEUMONIA IN CHILDREN.

A discussion upon the treatment of pneumonia in children was held before the New York Academy of Medicine, which is reported in full in the *Medical News*, vol. lxxxiii, pp. 641-650. Only a few points can be touched here. Chapin points out the fact that the temperature is not always a true indication of the degree of poisoning in the child. The best means for treating the fever, when treatment is necessary, is by the external application of cold, by ice poultices, or by applying to the chest compresses which have been dipped in water at 75 to 90 degrees. The treatment may be employed until the temperature falls to 102 or 103, and then discontinued until it rises again. He believes that the fear and prostration incident to the giving of cold baths contraindicate them. Holt makes an excellent communication, in which he lays considerable stress upon the necessity of saving the child as far as possible from the worry excited by too much attention His conclusions are as follows:

1. No depleting measures are ever admissible.
2. Hygienic treatment, including fresh air, proper feeding, and intelligent care, is of the utmost importance.
3. No unnecessary medication should be permitted.
4. Many annoying symptoms may be relieved by local treatment, such as the cough by inhalations, pain by counter-irritation, restlessness by the ice-cap or sponging.
5. Stimulants should be deferred until demanded by the condition of the pulse.
6. High temperature is much more safely and effectively controlled by the use of cold than by drugs.
7. Greater caution is necessary in the use of powerful stimulants than is generally observed.
8. Rest is quite as important as in other serious diseases.

Koplik believes that baths may be more frequently used, but advises great care in their administration. Almost all of these observers lay particular stres on the *necessity of good ventilation*, a point which the reviewer would also insist on. The manner in which patients with respiratory affections are still shut in close, ill-ventilated, overheated apartments should be combated by every intelligent physician.

Carr, discussing the treatment of broncho-pneumonia complicating measles, lays stress also on the same fact, advising that the patient be kept in a freely ventilated room, between 65 and 70 degrees. In these cases he advises that the diet should be of about the same quantity as that given to a healthy child: peptonized milk, beef-juice, eggs, custards, jellies, etc., are the best foods. Baths from 85 to 90 degrees are the best antipyretics.

Baruch discusses the methods of giving baths and packs, and lays particular stress on the necessity of employing vigorous friction throughout. Baths are not always necessary—treat the child and not the disease.

Not the Correct Formula.

THE Resinol Chemical Company writes us that the formula purporting to be that of resinol, which we printed in this department August 12, "does not contain one single ingredient that is contained in unguentum resinol" and that "the statements therewith made are absolutely false from start to finish."

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Journal of Experimental Medicine, May-July.

1.—*The Organism in a Case of Blastomycetic Dermatitis. Ludwig Hektoen.
2.—*Case of Hemochromatosis? Relation of Hemochromatosis to Bronzed Diabetes. Eugene L. Opie.
3.—*Action of Hepatic, Renal and other Cells on Phenol and Indol, under Normal and Pathologic Conditions. C. A. Herter and A. J. Wakeman.
4.— Interpretation of Pulse-Tracings. Arthur R. Cushny.
5.—*Diplococcoid Form of Colon Bacillus. J. G. Adami, Maude E. Abbott and F. J. Nicholson.
6.—*Relation of Dextrose to Production of Toxin in Bouillon Cultures of Diphtheria Bacillus. Theobald Smith.
7.— Origin of Fat from Protein in the So-called Fatty Metamorphosis of Phosphorus Poisoning. Alonzo Englebert Taylor.
8.— Contribution to Knowledge of Pathology of Fragmentation and Segmentation, and Fibrosis of Myocardium. John Bruce MacCallum.
9.—*Cultures from Blood in Septicemia, Pneumonia, Meningitis and Chronic Diseases. Franklin Warren White.
10.— Case of Suspected Rabies with Isolation of Bacillus Diphtheriæ from the Central Nervous System. George Douglas Head and Louis Blanchard Wilson.

American Journal of Obstetrics, September.

11.—*Value of Antistreptococcic Serum in Treatment of Puerperal Infection. Report of Committee of the American Gynecological Society.
12.—*Treatment of Puerperal Streptococcus Infection by Curettage, the Cul-de-sac Incision, and the Application of Antiseptic Dressings. William R. Pryor.
13.—*Antistreptococcic Serum in the Treatment of Puerperal Sepsis. Henry D. Fry.
14.— Use of the Renal Catheter in Determining the Seat of Obscure Pain in the Side. Howard A. Kelly.
15.— Diagnostic Curettage. J. Rilus Eastman.
16.—*Toxicity of Urine in Pregnancy. Robert W. Stewart.
17.—*Vaginal Cystotomy for Cure of Irritable Bladder. R. W. Knox.
18.— Malignant Tumors of Breast. W. P. Carr.
19.—*Parotid Gland Therapy in Ovarian Disease. John B. Shober.
20.— Mumps Complicated with Orchitis and Nephritis. George N. Acker.
21.— Posterior Rotation of Occiput in Vertex Presentation. Strickler Coles.
22.— Cerebral Complications in Mumps. J. R. Bromwell.

University Medical Magazine (Phila.), August and September.

23.— Ovarian Multilocular Cystic Tumor, Existing for Thirty-five Years Without Destroying Life, the Woman Dying from Influenzal Bronchitis at the Age of Seventy-four Years. Repeated Tappings. DeForest Willard and S. M. Wilson.
24.— Founding of a Hospital for Consumptives. James Tyson.
25.— Pneumomassage of the External Auditory Canal Compared with Inflation of the Tympanum. Charles H. Burnett.
26.— A Visit to the Loomis Sanitarium for Consumptives. Guy Hinsdale and H. S. Anders.
27.— Case of Obstruction and Perforation of Bowel from a Gall-Stone. C. S. Martin.
28.— Case of Transposition of Viscera and the Great Vessels, with Pulmonary Stenosis and Perforated Septum Ventriculorum. J. P. Crozer-Griffith.
29.— LaGrippe. A. F. Van Horn.
30.— An Address Commemorative to the Twenty-fifth Annual Meeting of the American Neurological Association. Wharton Sinkler.
31.— Cancer of the Common Bile-Duct. John H. Musser.
32.— Extensive Defect in the Septum Atriorum Cordis, and Malposition of the Kidneys, without Symptoms or Signs of Heart Disease. Frederick P. Henry.
33.—*Medical Treatment of Movable Kidney. Alfred Stengel.
34.— Congenital Dislocation of Knee. James K. Young.

Medical Dial (Minneapolis, Minn.), September.

35.—*Value of Leucocyte Count in Appendicitis. Geo. Douglas Head.
36.— Some Abuses in Nasal Surgery. W. S. Laton.
37.—*Surgical Tuberculosis. G. G. Eitel.
38.— Suprarenal Extract in Ophthalmic, Aural and Allied Surgery. A. G. Aldrich.
39.— Recurrent Appendicitis with Perforation; Report of a Case; Operation and Recovery. W. Z. Flower.
40.— Do We Need Iodoform? F. A. Dunsmoor.

Journal of Alumni Association of College of Physicians and Surgeons (Baltimore), July.

41.— Case of Retrocalcaneal Bursitis—Albert's Disease. Harvey G. Beck.
42.— Additional Points on Relation of Adenoids to Ear Trouble. Frank Dyer Sanger.
43.—*Co-Existence of Fibromyoma and Carcinoma of Uterus, with Report of Three Cases. W. Wayne Babcock, Jr.
44.— Concussion and Compression of Spinal Cord. R. Percy Smith.
45.— Treatment of Syphilis. Harvey P. Jack.

North Carolina Medical Journal (Charlotte), September 5.

46.— Report of Case of Urethral Calculus, with Amputation of Penis. H. F. Long.
47.—Report of Case of Prostatic Hypertrophy. Robert L. Felts.
48.—*Questions and Observations on Pernicious Malaria. E. E. Dickinson.

Archives of Otology (N. Y.), August.

49.— A Modification of Körner's Plastic Operations for Cholesteatoma. F. Siebenmann.
50.—*Otitis Media Neonatorum. A Contribution to the Embryology of the Middle Ear. L. Aschoff.
51.— Report of Seventy-Seven Radical Operations. P. Manasse and A. Wintermantel.
52.— New Symptom of Obstructive Thrombosis of Lateral Sinus. F. Voss.
53.— Acute Bilateral Brain Abscess after Opening the Mastoid. Recovery. H. Seligman.
54.— Additional Cases of Acute Osteomyelitis of the Upper Jaw in Infants. Dr. Ropke.
55.—*Effects of Artillery Practice on the Ears. Richard Müller.
56.—*Complications Following Intranasal Operations. Edmund Wertheim.

Iowa Medical Journal (Des Moines), September.

57.—*Septic Pneumonia. S. T. Gray.
58.— History of Boone County Medical Societies. A. A. Deering.
59.— History of Boone County Medical Society. D. S. Fairchild.

Southern California Practitioner (Los Angeles), August.

60.— Ectopic Gestation. M. L. Moore.
61.— Report of Case of Ectopic Pregnancy. E. R. Smith.
62.— Tubal Pregnancy. Walter Lindley.
63.— Forcible Straightening of Tubercular Kyphosis. Justin Kay Toles.
64.— The Century's Progress in Scientific Medicine. William Barber.

Journal of Mississippi State Medical Association (Biloxi), August.

65 — Tubercular Laryngitis. Richmond McKinney.
66.— Some Remarks on Causes of Blindness of Thirty-three Pupils at Mississippi State School for the Blind. W. S. Sims.
67.— Water Supply in Rural Districts. E. A. Cheek.
68.— How Do Curative Agents Act? H. A. Minor.
69.— Examination of Urine for Life Insurance. W. A. Evans.

Women's Medical Journal (Toledo, Ohio), September.

70.— Gynecologic Clinic at the Woman's Hospital at Philadelphia. Anna Fullerton.
71.— Intestinal Obstructions. J. B. Murphy.
72.—*The Study and Teaching of Obstetrics. Eliza H. Root.

Journal of Medicine and Science (Portland, Me.), September.

73.— Nasal Catarrh: Its Surgical Treatment. Arthur F. Sumner.
74.— Extracts from the Ancient History of Medicine. F. J. Robinson.
75.— Extra-Uterine Pregnancy. W. G. Sawyer.
76.— Masso-Therapeutics. E. H. Judkins.

Denver Medical Times, September.

77.—*Toxic Causes of Insanity. Hubert Work.
78.— Remarks Preliminary to a Discussion on Pneumonia and its Treatment. L. E. Holmes.
79.—*Repeated Intrauterine Pregnancy, with Report of Two Cases. C. K. Fleming.

Atlanta Journal-Record of Medicine, August.

80.—The Pathology of Fever. J. Clarence Johnson.
81.— Something of the Tact and Patience Necessary in the Prognosis and Treatment of Chronic Deafness. Arthur G. Hobbs.
82.— Report of Two Interesting Cases. Marcus F. Carson.
83.— Abdomino-Perineal Pacto-Sigmoidectomy. James N. Ellis.

Medical Bulletin (Philadelphia), September.

84.—*The Physiological and Medical Treatment of Insomnia. John V. Shoemaker.
85.— Remarks on a Case of Pulmonary Tuberculosis. George W. Pfromm.
86.— Masochism, Sadism and Fetichism. Ralph Miner Niles.

Columbus Medical Journal, September 5.

87.—*Diagnosis and Treatment of Cholelithiasis. W. J. Means.
88.— Causes and Prevention of Infantile Mortality. G. W. Morehouse.

Northwestern Lancet (St. Paul, Minn.), September 1.

89.—*The Lithemic Habit. Florence Baier.
90.— Constipation in Infants and Children. Its Cause, Nature and Management. C. G. Slagle.
91.—*Relation of Pelvic Disorders to Nervous and Mental Diseases. C. Eugene Riggs.
92.— Hygienic Prophylaxis Through Legally Enforced Vaccination Against the Contagion of Smallpox and the Cure of the Climate Changes for Persons Infected with Tubercular Consumption, Through a Graduated Cottage and Governmental Park System. E. E. Bigelow.
93.—*Throat and Nose Disinfection in the Presence of Bacillus Diphtheriæ. J. H. Adair.
94.— Progress in Medical Diagnosis. H. H. Witherstine.

Medical Age (Detroit), September 10.

95.— Insects as a Means of Spreading Infectious Diseases. A. C. Ellis.
96.—*Epidemic Cerebrospinal Meningitis. Grant G. Speer.

Virginia Medical Semi-Monthly (Richmond), September 8.

97.—*Traumatic Shock. A Study of its Etiology, Symptomatology, Diagnosis, Prophylaxis, Prognosis, Pathology and Treatment. Liston H. Montgomery.
98.— Colds. Ephraim Cutter.
99.— Dangers which Lurk in the Schoolroom: How Safeguards May be Easily Provided. William B. Meany.
100.— The Peritoneum and Some of its Morbid Phenomena. W. Lowndes Peple.
101.—*Do Patients Recover From General Peritonitis? I. S. Stone.
102.— Use of Toluidin-Blue in External Ocular Inflammations. Clarence A. Veasey.
103.— Case of Brain Abscess With Peculiar Symptoms. George K. Sims.
104.— Pseudo-Catalepsy. Wilbur M. Phelps.
105.— Case of Tubal Abortion. J. Wesley Bovée.

Sanitarian (Brooklyn), August.

106.— Sanitation in Prisons. W. H. Blake.

Pacific Medical Journal (San Francisco), August.

107.— Emergency Surgery. N. Senn.
108.— Opening of the New Military Hospital at the Presidio, July 9, 1899. W. F. Southard.
109.— Notes and Observations on Syphilis and Gonorrhea in their Relation to Marriage. M. Krotoszyner.
110.— Illustrative Cases of Conservative Operations on the Uterus and Appendages. J. Coplin Stinson.

St. Louis Courier of Medicine, July.

111.— Traumatic Shock. Nicholas Senn.
112.— The Differential Diagnosis of Hysteria and Neurasthenia, and Their Treatment. Ludwig Bremer.
113.— History of Opo- or Organic Therapy. Roswell Park.
114.— Pointers on the Leather Splint-Brace. A. J. Steele.

Medical News (N. Y.), September 23.

115.—*The Bacillus Icteroides: A Reply to Dr. Sanarelli. F. G. Novy.
116.—*Inoculation Through the Digestive Tract: A Contribution to the Yellow Fever Discussion. Felix Vitale.
117.—*Some Surgical Aspects of Syphilis. Frank Hartley.
118.—*Bottini's Operation and other Treatment of the Enlarged Prostate. Robert Newman.

New York Medical Journal, September 23.

119.—*Fracture of the Lower End of the Radius. Carl Beck.
120.—*Physiologic Action and Therapeutics of Guaiamar, a Derivative of Guaiacol. George F. Butler.
121.— Compulsory Reporting of Tuberculosis. S. A. Knopf.
122.— Exhibition of Case of Stammering, with Demonstration of Methods Employed in Treatment. G. Hudson Makuen.
123.— Early Recognition of Kidney Disease, Especially in its Reference to Life Insurance. T. H. Rockwell.
124.—*Foreign Bodies Lodged within the Eyeball. Edward Jackson.
125.— Pistol-shot Wounds of the Abdomen Perforating the Stomach. Recovery. J. N. Le Conte.

Philadelphia Medical Journal, September 23.

126.— Tuberculous Peritonitis; Gastrotomy; Acute Appendicitis. Frederic S. Dennis.
127.—*Relation of Headache to Affections of the Eye. S. D. Risley.
128.—*Primary Carcinoma of the Ovary and Sigmoid Flexure. Philip Daggett Bourland.
129.—*X-Ray Examinations of the Chest as Illustrated by Two Cases of Pneumohydrothorax and Two of Pneumothorax. Francis H. Williams.
130.—*Intussusception. J. C. Munro.
131.—*Case of Typhoid Fever with Ulceration of Esophagus, and Complicated with Croupous Pneumonia. David Riesman.

Medical Record (N. Y.), September 23.

132.—*Legal vs. Scientific Test of Insanity in Criminal Cases. Carlos F. MacDonald.
133.—*Present Status of Appendicitis: with Report of Forty-five Cases. Frank LeMoyne Hupp.
134.—*On Prevention of Tuberculosis. Carl Strueh.
135.— Removal of Exostosis of the External Auditory Canal by a Hook. Geo. B. McAuliffe.
136.— Nephorrhaphy and Stripping of the Appendix through a Lumbar Incision with Right Floating Kidney and Painful Appendix. J. Coplin Stinson.
137.— An Improvised Vaccin Expeller. Arthur Irving Boyer.
138.— A Typical Case of Vaccinella. W. E. Fowler.
139.— A Pipe-Stem in Utero. William J. Greanelle.

Boston Medical and Surgical Journal, September 21.

140.—*Correction in Lateral Curvature. E. H. Bradford and E. G. Brackett.
141.—*The Struggle against Tuberculosis. Edward O. Otis.
142.—*Astringents in Intestinal Catarrh. G. H. C. Meier.
143.— Syphilis and Parasyphilic Affections: Two Cases. E. W. Taylor.

Cincinnati Lancet-Clinic, September 23.

144.—*Mental Element in the Treatment of Headache. Philip Zenner.
145.—*Toxicity of Urine in Pregnancy. Robert W. Stewart.

Maryland Medical Journal (Baltimore), September 23.

146.—*Importance of a Diagnosis of Uterine Cancer in Early Stages. Thomas A. Ashby.
147.—*How do Faddists and Physicians Cure Diseases? A. D. McConachie.
148.—*Medical and Surgical Treatment. Walter B. Platt.

Medical Review (St. Louis), September 23.

149.—*Demonology in Medical Practice. James G. Kiernan.
150.— Strangulated Hernia, Complicated with Retained Testicle and Intra-Abdominal Hydrocele of the Cord. Julius Kohl.
151.— Case of Gunshot Wound of Abdomen followed by Operation and Recovery. Jacob Frank.

AMERICAN.

1. **Blastomycetic Dermatitis.**—Hektoen's paper describes the results of the histologic and biologic examination of a case of this affection, seen with Professors Hyde and Bevan, in the Presbyterian Hospital, Chicago.

2. **Hemochromatosis.**—Opie reports a case which he considers as representing an intermediate state between the hemochromatosis of von Recklinghausen and the bronzed diabetes of Hanot and other French authors. The clinical history is brief. The patient had symptoms indicating typhoid, with deep pigmentation of the skin, no jaundice, no sugar in the urine. Death occurred from gradually increasing weakness. Typhoid

bacilli were present. The post-mortem and pathologic findings are reported in full detail and the condition discussed at length. His conclusions are: 1. There exists a distinct morbid entity, hemochromatosis, characterized by the wide-spread deposition of an iron-containing pigment in certain cells, and an associated formation of iron-free pigments in a variety of localities in which pigment is found in moderate amount under physiologic conditions. 2. With the pigment accumulated there is degeneration and death of the containing cells, and consequent interstitial inflammation, notably of the liver and pancreas, which become the seat of inflammatory changes accompanied by hypertrophy of the organ. 3. When chronic interstitial pancreatitis has reached a certain grade of intensity, diabetes ensues and is the terminal event in the disease.

3. **Action of Body Cells on Phenol and Indol.**—The object of Herter and Wakeman's paper is to report experimental observations of the action of various animal cells toward these substances, made with a special view to studying the natural defense of the organism against chemical agents. The experiments were made in two ways: by direct contact of the prepared cells with this substance, and by making intravenous injections of their solution. In the contact method the mixture, after a certain period, was subjected to distillation and the distillate tested for indol and phenol. In twenty-seven observations by this method, the activity of the liver was found to be greater in reacting on phenol than any other organ treated. Next to this came the kidneys. There was less uniformity in this respect as regards indol, but the same general results were obtained. By the infusion method the liver and kidney cells were also more active than other body cells. The authors venture the opinion that the capacity of the cells to act on phenol is only one expression of a function that can be exerted on numerous allied aromatic substances, and possibly on some non-aromatic substances. In order to test the activity of these organs under pathologic conditions, tests were made on rabbits poisoned by various substances, alcohol, ricin, ammonium chromate, staphylococcic infection, morphin, etc. The differences were not marked under these conditions, and some of these agents appeared to have no effect whatever on the power of the cells to convert phenol.

5. **Diplococcoid Form of Colon Bacillus.**—The author concludes, from observations on rabbits: 1. That the colon bacillus injected into the circulation is rapidly taken up by both the liver and kidney. 2. That within fifteen minutes after inoculation some bacilli are already ingested by the endothelial cells of the liver, this process of ingestion continuing until some of the cells are full of bacilli. 3. That in this process of ingestion the bacilli are broken up into shorter lengths, and that these short stumpy bacillary forms may already, within the endothelial cells, present themselves as two deeply-staining dots, and may thus resemble diplococci. 4. That already in two hours the modified bacilli may be discharged outwardly from the endothelial cells, and be taken up by the underlying liver cells. 5. The exact stages of this discharge we have been unable to follow. In the liver cells the modified bacilli are to be recognized as small diplococci of a size varying from that equal to the diplococci seen in the endothelial cells, down to points of extreme tenuity; evidently these forms are undergoing destruction. In the first place, they lose their power of staining; in the second, if the destruction is not too rapid, they assume a brownish tinge. The causation of this brownish tinge we have not yet determined, but it is to be made out in the unstained sections, and our studies on the human liver indicate to us that not a little of the fine pigmentation common in liver cells is brought about by the existence in these cells of these minute elements of material destruction. During this process of destruction the modified bacilli lie in digestive vacuoles, and the frequent appearance of the halo around these forms is in great part due to the existence of the vacuole. We have occasionally been able to make out what appear to be these vacuoles in the liver cells, without the evidence of the contained microbe, and having apparently been digested. We have also seen the same appearance in peritoneal leucocytes nine hours after intraperitoneal inoculation with modified colon bacilli. 6. In the kidney the same process is at work—we have recognized the diplococcus form within the cells at the expiration of two hours after inoculation, and have also seen the vacuoles within the cells and convoluted tubules, and have there occasionally met with the two dots just visible as final indications of the process of digestion of the bacillus.

6. **Dextrose and Diphtheria Toxin Production.**—The inhibitory action of muscle sugar in the production of diphtheria toxin, noted by Spronck and von Furenhout, started investigation on this point by Park and Williams, Cobbett, Blumential, and others. Smith here reports investigations by new methods with which he finds a contrary condition of things from that reported by many of these authors. The methods can not well be abstracted here, but the conclusions are as follows: 1. Dextrose is not in itself injurious, but rather favorable to toxin production. When added in quantities not exceeding 0.2 per cent., to peptone bouillon, freed from fermentable acid-producing substances—muscle sugar—it leads to a maximum accumulation of toxin by utilizing the available peptone to the best advantage. 2. The different courses taken by cultures of diphtheria bacilli in ordinary unfermented peptone bouillon containing muscle sugar, and in peptone bouillon made from fermented infusion to which 0.1 to 0.2 per cent. dextrose has been added, are manifested by an increased production of toxin in the latter as well as by a rapid return from an acid to an alkaline reaction. In the former an acid reaction may prevail even under most favorable conditions. 3. These differences may be explained either by assuming that the acid products of the muscle sugar are different from those of dextrose and non-utilizable, or else that the bouillon contains certain other unknown inhibitory substances removed during fermentation. The use of synthesized media, and an analysis of the acid products in fermented bouillon plus dextrose, and in unfermented bouillon, would aid in explaining the differences. 4. Among the accessory conditions which favor the toxin production in unfermented bouillon, as pointed out by Park and Williams, are increased quantities of peptone, well-developed surface growth of the diphtheria bacilli, and a low initial acid reaction—phenolphthalein. In fermented bouillon these accessory conditions are also favoring, though of less importance.

9. **Blood Cultures in Septicemia, Etc.**—The conclusions derived from examination of ninety-two cases of sepsis, pneumococcic pneumonia, cerebrospinal meningitis, and various severe chronic and fatal cases, together with a study of the literature, have led White to the following conclusions: 1. Blood for bacteriologic examination during life should be taken directly from the veins and in considerable quantity. 2. Resorption of toxins is the most important feature in cases of sepsis; pyogenic bacteria invade the general circulation in a rather small proportion even of severe cases, and, as a rule, late in the course of the disease. 3. A general infection of the pneumococcus can be occasionally demonstrated in the late stages of acute lobar pneumonia. 4. The value of blood cultures as a means of diagnosis in obscure cases of sepsis is limited by the fact that invasion of the blood by the specific organism can not be demonstrated during life in the majority of cases. Positive cultures are very valuable; negative cultures do not exclude local septic infections. 5. The detection of specific bacteria in the blood of cases of sepsis and of pneumonia gives a very unfavorable prognosis in most cases. 6. General terminal infections with pyogenic cocci occasionally occur as an immediate cause of death in chronic disease. Local infectious processes play this part more frequently. 7. As far as our experiments have shown, invasion of the blood by bacteria during the death agony, with subsequent distribution of the germs to the organs by the circulation, is a rather uncommon occurrence. 8. Owing to the relative infrequency of agonal invasion, we believe that in the majority of cases where the autopsy is performed promptly after death, the bacteria which are found in the organs succeeded in reaching these organs previously to the death agony, and are associated with the course of disease. 9. The presence of bacteria in the organs of the late autopsies is due in many cases to post-mortem extension from one organ to another, and in some to the post-mortem growth of small numbers of germs which were distributed to the organs by means of the circulation.

11, 12 and 13.—**Antistreptococcic Serum in Puerperal Infection.**—The report of the committee of the American Gynecological Society, consisting of Drs. J. Whitridge Williams, Pryor, Fry, and Reynolds, sums up the results of their study and observations as follows: 1. A study of the literature

shows that 352 cases of puerperal infection have been treated, with a mortality of 20.74 per cent.; where streptococci were positively demonstrated, the mortality was 33 per cent. 2. Marmorek's claim, that his antistreptococcic serum will cure streptococcic puerperal infection, does not appear to be substantiated by the results thus far reported. 3. Experimental work has cast grave doubts on the efficiency of antistreptococcic serum in clinical work, by showing that a serum which is obtained from a given streptococcus may protect an animal against that organism, but may be absolutely inefficient against another streptococcus, and that the number of serums which may be prepared is limited only by the number of varieties of streptococci which may exist. 4. Thus far the only definite result of Marmorek's work is the development of a method by which we can increase the virulence of certain streptococci to an almost inconceivable extent, so that one hundred billionth of a cubic centimeter of a culture will kill a rabbit. 5. Personal experience has shown that the mortality of streptococcus endometritis, if not interfered with, is something less than 5 per cent., and that such cases tend to recover if Nature's work is not undone by too energetic local treatment. 6. The committee unhesitatingly condemns curettage and total hysterectomy in streptococcus infection after full-term delivery, and attributes a large part of the excessive mortality in the literature to the former operation. 7. In puerperal infections a portion of the uterine lochia should be removed by Doderlein's tube, for bacteriologic examination, and an intrauterine douche of four or five liters of sterile salt solution given just afterward. If the infection be due to streptococci, the uterus should not be again touched, but the patient should be given very large doses of strychnia and alcohol if necessary. If the infection be due to other organisms, repeated douchings and even curettage may be advisable. 8. If the infection extends toward the peritoneal cavity, and in gravely septicemic cases, Pryor's method of isolating the uterus by packing the pelvis with iodoform gauze may be of service. 9. The experience of one of the members of the committee with antistreptococcus serum has shown that it has no deleterious effect on the patient, and, therefore, may be tried if desired. But nothing in the clinical or experimental literature or in the members' experience was found to indicate that its employment will materially improve the general results in the treatment of streptococcus puerperal infection.

The supplementary reports of the treatment of puerperal streptococcus infection by curettage, the cul-de-sac incision and the application of antiseptic dressings by Dr. Pryor show that all cocci are destroyed by this method and that the colon bacillus remains present. Dr. Fry adds a supplementary report of 8 cases of infection all treated by serum, in which 3 died and 5 recovered. In one of the fatal cases the injection was followed by apparent improvement, in another the treatment was begun only eighteen hours before death. In the other case the patient died from exhaustion, in spite of the treatment. Dr. Fry insists on the importance of preventing introduction of infection post-partum, and he holds that curetting is contraindicated in pure streptococcic infection.

16.—See title 145, p. 855.

17. **Vaginal Cystotomy.**—Knox reports two cases of irritable bladder, rebellious to treatment, in which operation by opening through the vagina between the cervix and mouth of the urethra was resorted to. In both cases great relief attended the operation, and subsequent closure of the fistula presented no difficulty. He thinks the more frequent adoption of this method would result in the cure of many thus far incurable cases.

19. **Parotid Gland Therapy in Ovarian Disease.**—Shober briefly reports nine cases of ovarian pain treated with parotid gland extract, with complete success. The cases are those usually spoken of as ovarian congestion and chronic oöphoritis unattended with excessive pelvic disease and without much exudate.

33. **Medical Treatment of Movable Kidney.**—The treatment of movable kidney, Stengel says, must be directed solely to its restoration to its normal position. It may be permanent if we can restore normal conditions, or it may be temporary. There are two plans, therefore, of medical treatment, the first intended to supply the perirenal fat which has become deficient, and the second to support the kidney by a proper abdominal bandage and pad. The first of these is not applicable in cases where the loss of adipose tissue has played no considerable part in the production of the disease, but where this has been the case there is a distinct possibility of improvement or recovery. He cites one case in which this method of treatment was most satisfactory, though a relapse took place three years later, on account of loss of flesh from overwork and worry, and surgery was called in to rectify the condition. The use of an artificial support for the kidneys is necessary where other methods will not effect a cure. Sometimes a combination of both methods will secure temporary relief. While many authors are inclined to condemn the abdominal belt and pad in these cases, Stengel is convinced that if properly made they may be effective. A pad to be effective should be so shaped and applied as to make pressure upward, backward and toward the right, so as to push the kidney toward its normal position. He has had various pads made and applied and has had striking results in four cases, two of which are here reported. This paper was presented to the Section on Practice of Medicine at the recent meeting of the ASSOCIATION.

35. **Leucocyte Count in Appendicitis.**—Head calls attention to the value of the leucocyte count as an aid to diagnosis in appendicitis, as a means of determining the character of the inflammation, whether catarrhal or suppurative, and as a help in following the course of the disorder and determining whether or not it is extending or receding. Leucocyte count is almost diagnostic between appendicitis and typhoid, almost without exception showing increase in the former. The same is true to a great extent as regards the diagnosis of gall-stones and intestinal obstruction. Other conditions in which it has diagnostic value are stercoral cecitis and floating kidney, in each of which conditions the leucocytosis is a marked distinction. As regards the character of the inflammation, it is useful between suppurative and catarrhal cases. Cases of appendicitis with a white count over 14,000 are suppurative. This is of value in about 86 per cent. of all cases. The leucocyte count may, he shows by a table, be very high and yet the patient recover without operation. The whole blood count is also of great value in interpreting the course of the inflammation, an increase of the white globules indicating an advancing process, and a decrease the reverse. This is true when the counts can be made regularly from the beginning of the trouble. There is a small percentage of cases, suppurative or necrotic, in which the white count is low, and these may be misleading. He sums up by saying that the count may be of value: 1, where doubt existed as to the diagnosis between appendicitis and diseases which simulate its symptoms, but cause no leucocytosis; 2, where the diagnostician was uncertain whether pus was present, in or about the appendix; 3, where the clinical symptoms mystified the clinician and gave him no clue as to the course the inflammation was pursuing.

37. **Surgical Tuberculosis.**—Aside from general remarks on the subject, the most important point in Eitel's article is the importance of complete operations when dealing with surgical tuberculosis. Incomplete operations often aggravate the disease.

43. **Fibromyoma and Carcinoma.**—Remarking that the old notions of the malignant degeneration of myomata have been discarded and of late given place to a tendency to consider them as entirely distinct and independent of malignant growths, and that the co-existence of both forms in the same organ has a certain clinical interest, Babcock reports three cases in which both were found. After discussing the condition and the opinions in regard to it, as given by different authors, he concludes: 1. The frequency of association of fibromyoma with adenocarcinoma of the corpus uteri is greater than would be *a priori* expected, and relatively much greater than with the more common epithelioma of the cervix. 2. A coincidence of the two growths is favored by their individual proneness to affect the nulliparous; but the frequency of the association seems greater than is thus explained, or than is explained by the frequency of fibromyomas in all uteri after middle life. 3. The endometrial hyperplasia and the congestive and irritative influences produced by fibromyomas would seem to favor the development of the malignant tumor. 4. Further investigation is desirable before the old theory that fibroids predispose to cancers in the uterus is considered as disproved. 5. The occasional serious errors of diagnosis from this association render the routine

examination of the endometrium desirable in elderly women with fibroids, and imperative when there is excessive or odorous discharge, or abundance of scrapings.

48. **Pernicious Malaria.**—After noticing the symptoms of hemorrhagic malaria, or yellow disease, Dickinson asks how we will prevent its occurrence and spread. He notes that the negroes have been as a rule free, and suggests that their serum may possibly be of value. In treating the disease the chief importance is to avoid those remedies that are sure to kill. These are morphin, atropin, heroic purging and heroic cinchonizing. A gentle sure purgative is efficient and demanded, but too much only exhausts the already depressed vitality. He asks what are the conditions that must be relieved, and says that after arranging to get 15 grs. of quinin hydrochlorate every twelve hours into the circulation, two important conditions must be met, and these successfully combated and the patient tided over twenty-four hours—then one may feel comfortable. These two conditions are nausea and anemia. The former may almost always be relieved by avoiding morphin and giving 20 to 30 grs. of lithium bromid every two or three hours. These are all that is necessary for the restlessness. The circulation might be renewed by transfusion, but he has never done it. He has instead used large subcutaneous injection of normal salt solution, and large saline injections per rectum. Give no remedy for hematuria. If the kidneys act well, Nature is relieving herself of the decomposed blood. If fever is high, the skin hot and dry, or the liver at fault, he gives 2 grs. each of caffein citrate and acetanilid, and 4 grs. each of sodium salicylate and ammonium bromid, all in one powder or capsule, every two or three hours, with good effect. His mortality under this treatment was 33 1/3 per cent.

50. **Embryology of Middle Ear.**—It has long been known that the middle ear in children frequently contains fluid of a suppurative character, and the question whether this is due to suppurative inflammation has not yet been fully settled. It is discussed here at length, by Aschoff, who answers the question as to whether it is due to a bacterial process in the negative, supporting himself by the bacteriologic investigations of Gradenigo and Penzo. There is therefore no otitis media neonatorum. The older statements as to the intrauterine inflammatory diseases of the middle ear with functional paralysis and drum perforation no longer hold. It is found, however, that particles of the amnion and meconium reach the middle ear during intrauterine life, through intrauterine respiratory movements. It is this contamination, whether it occurs early or late, that produces the collection of leucocytes in the cavum tympani.

55. **Effects of Artillery Practice on the Ear.**—The effects on the ears of artillery firing is commonly known, and is here investigated by Müller of Berlin. He examined 51 men, mostly private soldiers, but some officers, both before and after firing. The results showed that violent detonations of heavy artillery did greater harm to ears with retracted membranes and middle ear catarrh than to healthy ones. Permanent injury to ears that are not exactly normal is more likely to occur as the result of prolonged exposure to detonations of heavy artillery.

56. **Complications Following Intranasal Operations.**—Wertheim, after noticing the natural protective arrangement of the nose, shows that different morbid processes may develop when this is defective, such as fibrinous rhinitis from the specific infection of Löffler's bacillus, and pseudo membranes from pyogenic germs. He illustrates the predisposing effect of such acute inflammatory processes in the nose at the time of operation, by a case in which there was high fever, and general prostration occurred after cauterizing for nose-bleed, and he states that local therapeutic measures, especially nasal plugging, may increase the disposition to infection. The galvanocautery is more liable to be followed by complications than are operations with the knife. He reports two cases of pulmonary and kidney infarction following operation for polypi. The use of peroxid of hydrogen entails the danger of gas embolism by the entrance of gas bubbles into the open blood-spaces. The general result of his observations is the absolute necessity of asepsis in nasal operations. Antiseptic operations are useless, as the microbes can not be reached. The chief care should be not to transfer the infective agents from without, since the microbes existing in the nose remain harmless under normal conditions. Cauterization of the middle turbinals should be avoided on account of endocranial complications that have been observed to follow. Plugging should be done with antiseptic gauze, sterilized by steam, which should not be left in place over twenty-four hours. In all cases the direct treatment of the bleeding spot should be attempted, though plugging can not be spared during the first hours. After the cessation of the hemorrhage the parts should be covered by antiseptic—iodol or iodoform or indifferent sterilizable—dermatol powders.

57. **Septic Pneumonia.**—Gray remarks that the literature of septic pneumonia is scant, and after noticing what he has found in this line, he reports an epidemic of a malignant type near Albia, Iowa. In these cases the possibility of direct contagion could not be excluded.

72.—This paper appeared in the JOURNAL of August 26.

77.—See abstract in JOURNAL, August 19, p. 482.

79.—Ibid, August 12, p. 414.

84.—Ibid, July 8, p. 101.

87. **Cholelithiasis.**—Means reports ten cases of gall-stones, and analyzes them and their symptoms. The conclusions at which he arrives are as follow: 1. There are no pathognomonic symptoms of the existence of gall-stones in the early stages of the disease. 2. While the symptoms of gall-stones are obscure in the early stages, those of disease of the gall-bladder and ducts are sufficiently pronounced to make a diagnosis of the latter with much certainty. 3. A patient complaining of recurrent stomach cramps, slight jaundice, tenderness of the liver, and digestive disturbances, should receive treatment for biliary trouble, and if the conditions do not improve, should have an exploratory operation. 4. A patient suffering from recurrent attacks of colic in the region of the stomach, followed by jaundice, rigors, fever, digestive disturbances, and light-colored stools, is probably suffering from gall-stones and should be treated by an operation. 5. Early operations in cholelithiasis will reduce the mortality of the disease as certainly as early operations do in appendicitis. 6. A large percentage of patients suffering from gall-stones will not receive any benefit from medicinal treatment, therefore surgical interference is the rational method of treatment. 7. Cholecystostomy, where there are no complications, is a comparatively easy and safe operation. 8. Cholecystostomy should be completed in one operation, and the gall-bladder attached to the peritoneum and aponeurosis and drained. 9. Choledochotomy is a difficult and dangerous operation, and therefore should not be attempted by any one who is not experienced in abdominal surgery.

89. **The Lithemic Habit.**—Baier's paper treats of the lithemic condition and its management, holding the uric acid theory in full. She believes that in treating the disease we must secure a restricted diet, not too generous in the nitrogenous element, or in sugar and starchy substances that impede proteid metabolism. There must be exercise, either active or passive, varied and increasing. There must be free use of water, both internally and externally. Electricity, of one form or another, is a valuable adjuvant. Among medicines, such may be sparingly used as temporarily meet urgent symptoms. Sodium phosphate is the best to stimulate the liver and act as a laxative. Reliance for permanent relief must be placed on the lithia salts, bitartrate of lithium being one to be preferred.

91. **Pelvic Disorders and Nervous Diseases.**—According to Riggs, the neurologist and gynecologist have been approaching each other in their opinions in regard to the relation of pelvic and nervous or mental disorders, within the last few years. He holds that all sources of irritation, pelvic or otherwise, should be done away with in treating nervous and mental conditions, though it is his belief that no operative procedure can directly relieve the abnormal irritability of the nerve-cell, or the accompanying lack of inhibition. The benefit to be derived will be in the generally improved condition of the patient, not in any specific local action. As regards the suggestive action of operative procedures on the hysteric or the insane, he says that it is a two-edged sword, especially in hysteric cases. He gives the opinions of a number of authorities, alienists and others, advocating conservatism as regards active gynecologic work among the insane, and he states that the general results of such work are likely to be disappointing as regards the direct mental results, though valuable in building up the general

health. This, he thinks, will be found to be more and more the accepted view among candid physicians.

93. **Throat and Nose Disinfection in Diphtheria.**—From a study of cases, Adair concludes that while the diphtheria bacillus is undoubtedly present with other germs in every case of diphtheria, its mere presence is no guide as to the virulence or otherwise. This bacillus, or one morphologically identical with it, is present in nearly one-third of all children, and is found about as frequently in those who have never had diphtheria as in those who have had acute attacks, but is in the former liable to be variant in type. It is found more frequently in the nose than in the throat, and is not dependent on abnormal conditions. The theory that the apparent non-virulence in these cases is due to toxin absorption and the consequent immunity is plausible but not proved. Efforts to permanently dislodge the bacillus from the tissues of the throat and nose are, with our present means and knowledge, unavailing. These conclusions were obtained in part by bacteriologic findings in the laboratory of the State Board of Health of Minnesota.

96. **Cerebrospinal Meningitis.**—Speer reports an epidemic of tetanus occuring during the winter of 1898-99, at Manistee, Mich., giving full notes of two cases. As regards the treatment, he lays down four principal heads: relief of pain; cleansing out and keeping clean the alimentary tract; drawing the blood away from the nerve-centers, especially at the base of the brain and medulla; and causing the absorption of the inflammatory products as soon as they are found to be producing pressure on the nerve-centers. When a case is first seen, morphin is generally required. It should be given in quantities sufficient to make the patient comfortable. It can not, however, be continued as long as required in these cases, and he prescribes a mixture of chloral hydrate and potassium bromid, 2 drams of each with a grain each of cannabis indica and hyoscyamin in a one-ounce mixture. He gives 5 to 10 drops to a child 2½ years old, repeating every ten minutes until the full effect is secured, to be resumed again when restlessness appears. In one of his cases, a powerful adult, 30 drops of this mixture was given every half hour for three days, with good effect. To cleanse out the bowels, calomel is preferable, given in small doses frequently repeated. To draw away the blood from the nerve-centers he uses hot packs or hot poultices along the spinal column, replaced later by mustard plasters applied not only to the back but to the back of the thighs, calves, soles of the feet, removing before the danger of blistering. He has used ice to the head and has kept it on. When symptoms of pressure occur the iodids are indicated, a saturated solution of the potassium salt, which he has found well tolerated by a child. For fever he has given aconite in small doses frequently repeated or alternated with belladonna. Other aspects of the disease are treated symptomatically. He has found giving fruit to these patients in certain stages harmless and beneficial. The results of his treatment have been good, in six cases only one death, and similar success has attended other physicians in this epidemic.

97. **Traumatic Shock.**—Montgomery's paper is one presented in the Section of Surgery and Anatomy, at the recent meeting of the ASSOCIATION. He believes that the etiology depends on the amount of constitutional disturbance that has been produced by the "solution of continuity," or, as he says: "In a restricted sense, therefore, shock is the inhibitive action of the nervous system accompanied with paralysis of a more or less general character, of the reflexes, in which the circulatory *vis a tergo* force becomes seriously involved so as to preclude or temporarily suspend or prevent the supply of the vascular system from being properly or equally distributed throughout the tissues of the body, and that which tends to operate to check the functions of organic activity is necessarily followed by a degenerative tendency leading toward serious results." He also considers the symptoms, diagnosis, prophylaxis and management, and goes at length into the treatment.

101. **General Peritonitis.**—The argument of Stone's paper is that complete peritonitis involving the whole peritoneum is not relievable or curable. Cases like the one which he reports are apparently generalized and yet recover, but he does not believe the entire peritoneum was affected.

115. **Bacillus Icteroides.**—Novy's paper is a reply to that of Dr. Sanarelli, which appeared in the *News* of August 12. (See JOURNAL, August 19, ¶ 152, p. 474; also September 16, ¶ 23, p. 725.)

116. **Yellow Fever and the Digestive Tract.**—This paper is a translation of one by Vitale, who was a student with Professor Sanarelli at the time the latter was carrying on his investigations concerning the bacillus icteroides. Vitale discusses the question of the difficulty in inoculation through the digestive tract, and of the value of experimental results thus obtained. Concerning the microbes, which, either because of their immediate pathologic effects or their quality of resisting the action of the gastric juice, are able to gain a foothold in the gastro-intestinal tract, he points out that the cholera vibrio is able to traverse the acid stomach and preserve its vitality in the intestine for a longer or shorter period without producing cholera. The rabbit is the animal most susceptible to the bacillus icteroides, succumbing to the minutest intravenous injections of a culture of the bacillus within forty-eight hours, and to a subcutaneous injection in four to five days. He has, however, in a number of instances fed large quantities of warm cultures to rabbits without their even becoming sick. He considers that the conclusion of Drs. Reed and Carroll, that the bacillus icteroides is a variety of the hog cholera bacillus, is hardly established.

117. **Surgical Aspects of Syphilis.**—Hartley limits his remarks to a discussion of the manifestations of syphilis occurring in the muscles, sheaths and tendons, bursæ, bones, joints, lymphatic glands and rectum. He says that the tongue is a favorite seat for the granuloma of syphilis. Lesions involving muscles generally occur in the late variety, and either as a circumscribed mass or as a diffuse connective tissue induration, with or without disseminated gummatous cocci. He also points out that syphiloma in the muscles has great surgical interest on account of the size it may attain, thus leading to a mistaken diagnosis of tumor. He presents two cases and considers differential diagnosis between syphilis, tuberculosis and actinomycosis. The paper will be concluded in a future issue.

118. **Treatment of Enlarged Prostate.**—Newman says that the treatment of prostatitis should first be directed toward allaying pain and irritation, before radical measures for cure can be commenced. He considers irrigation with hot water very important. He also employs anodyne suppositories, and local galvanization when the painful irritation has subsided, the galvanic current being from 3 to 5 milliamperes. Hypertrophy of the prostate differs from prostatitis in being a disease of advanced age and not painful. He describes the Bottini operation for this condition, but objects to it for the following reasons: 1. The instrument is clumsy, unhandy and heavy. 2. The platinum burner is so thick that it gets hot too slowly, and when hot loses its shape by bending, so that sometimes it will not move back into its beak. 3. The very large storage battery is too heavy for transportation and a smaller one does not generate enough heat. 4. The instrument is shaped like Heurteloup's lithotrite, the end having only a short coudée. Such an instrument is exceedingly difficult to introduce, and, in many cases of hypertrophy nonintroducible, the mechanical obstruction leaving no space for its passage. The intention is to push the instrument into the bladder over and beyond the enlargement of the prostate, then to reverse is so that the beak is turned downward. The galvanocautery knife is hidden inside the beak and moves outward when the dial is turned on the handle, as the battery heats it, thereby making a central cut in the obstructing prostate. 5. The result of this operation is very uncertain. 6. The patient has to remain in bed for weeks, and from some reports made by Bottini himself it has been shown that voluntary micturition occurred only after twenty-four days. 7. The operation is not free from danger. He has, therefore, constructed his own galvanocautery sound, which "is catheter-shaped, of smooth, polished metal with a short curve at one end. At this end is a fenestrum in which is placed the platinum wire, the burner to be heated. A serpentine form is best for this wire. Each end is firmly attached to one of the two copper rods inside the tube and represents respectively the positive and negative pole. The other end of the instrument is straight and forms the handle, in which extend the copper rods, each of which is fastened to one of the pins or heat conductors. These two pins are connected with electric cords by binding screws. The

other ends of the two electric cords are fastened respectively to the positive and negative pole of the battery. The current-breaker is movable, and when set straight and pressed firmly down on the screw, electricity is evolved and the burner instantaneously heated. The improvements consist in: 1, the handle being in one light, convenient piece; 2, having the current-breaker under the immediate control of the index finger; 3, having the fenestrum filled up, by which means the instrument is more thoroughly insulated and less liable to become heated; 4, having the tube filled up, thus preventing it from getting wet or blocked with débris. A storage battery is used to heat the wire.

119. **Fracture of Lower End of Radius.**—This article is continued from the *Journal* of September 9. Beck says that the first requirement, accurate reduction, may be carried out with little difficulty by moderate extension, the flexed hand being grasped as in a firm handshaking, with downward pressure by the surgeon's thumb, while counterextension is used on the forearm, which is flexed rectangularly. If this procedure should fail, anesthesia must be employed. Fracture of the lower end of the radius combined with fracture or fissure of the lower end of the ulna is frequent, but in case of fissure of the ulna no displacement is present, the symptoms being the same as for complete fracture. The symptoms of lateral displacement are well pronounced in complete fracture of the ulna, which is a rarer accident, but this combination is the main cause of impairment of supination and pronation. The treatment is practically the same as that of complete fracture with lateral displacement, lateral pressure, by attaching an adhesive-plaster pad over the ulnar fragment after reduction, being well kept up. In case of displacement, a plaster-of-Paris dressing is preferable for the first ten days. Fracture of the lower end of the radius, combined with fracture of the styloid process of the ulna represented 42 per cent. of all the author's cases of fracture of the lower end of the radius. In this variety the radio-ulnar joint is always more or less involved. He here considers it advisable to apply a plaster-of-Paris dressing while traction is used, the hand being firmly grasped by an assistant and held in slight ulnar flexion. Since the discovery of the X-rays, he says there are no more fractures the presence of which can not be established beyond doubt, and he thinks the danger of using them is much less than the danger of *not* using them, and he now declines to treat any fracture until he has first been given the privilege of taking a skiagram thereof.

120. **Guaiamar.**—This preparation is a glycerol ether of guaiacol, a definite chemical prepared by the reaction taking place between pure guaiacol and anhydrous glycerin. It is a dry, white, crystalline powder, melting at 75 C., soluble in alcohol, chloroform, ether, glycerin and in 20 parts of water. It is neutral, non-hygroscopic, possesses a bitter, aromatic taste, is compatible and may be advantageously administered with quinin, cod-liver oil, malt, hypophosphites and pepsin. While it has antiseptic properties, its chief value lies in the liberation of nascent guaiacol, partly in the stomach but chiefly in the intestinal canal. During the past year Butler has employed this preparation in twenty cases of typhoid fever, exclusive of any other remedy, except the cold bath, each case running an unusually mild course. He is satisfied that those to whom guaiamar was given did not have so high a temperature and the general symptoms were less severe than in the other cases where no therapeutic measure was resorted to except the cold bath. He reports three cases in detail.

124.—See abstract in JOURNAL, July 29, p. 289.

127.—See abstract in JOURNAL, September 23, p. 757.

128. **Carcinoma of Ovary and Sigmoid Flexure.**—First noticing the communication of Warthin in the JOURNAL, May 26, Bourland reports a case in which death occurred from cancer of the sigmoid flexure six months after the removal of two large multilocular ovarian cysts. This caused a reexamination of the tumors, which had been preserved, and it was found that they also presented evidence of malignancy. The character of the two growths, however, was so different that Bourland concludes that no direct relation existed between them. He considers the tumors, therefore, as primary coincident carcinomata. He also remarks on the case as being another example of the development of malignant growths from adenoma.

129. **X-Rays in Chest Disorders.**—Williams reports an illustration of pneumohydrothorax and two of hydrothorax, as shown by the X-ray. The figures are very striking as evidence of the value of these methods in diagnosis.

130.—See abstract in JOURNAL, September 23, ¶ 103, p. 790.

131.—Ibid, March 26, p. 664.

132.—See JOURNAL, September 23, ¶ 2, p. 784.

133. **Appendicitis.**—Hupp's paper gives the responses to a series of questions sent to various surgeons, in regard to the necessity of operation in appendicitis, its signs and causes, and the proportion of cases recovering without surgery. The majority of these answers, which are from such surgeons as Senn, McBurney, Morris, Hunter McGuire and others, agree pretty closely in the main, with only slight differences in regard to the necessity of operation and the symptoms of fulminating appendicitis. In only one answer is operation advised when diagnosis is certain in all cases of primary attacks. Forty-five cases are reported in brief, and the author expresses the opinion that balancing the lives that will be saved, and the suffering obviated on one side, and on the other the risk of modern surgical operations, the answer can be but one way, in regard to the propriety of operation in such cases. He concludes his paper with letters from medical directors of various insurance companies, giving the latest facts as to the attitude of these organizations to persons who have had appendicitis.

134. **Prevention of Tuberculosis.**—The article by Strueh is a plea for conservative views in regard to tuberculosis, and the necessity of building up the system as a defense.

140. **Lateral Curvature of the Spine.**—The conditions of lateral curvature are stated by Bradford and Brackett as follows: 1. Faulty attitudes with absolute flexibility of the spine, and without structural changes of ligaments, cartilage or bone. 2. A curved position of the spine with flexibility, except to a limited degree in certain portions where the normal flexibility is checked by slight structural alterations of muscles, ligaments, or cartilage. 3. Curves with limited flexibility of the spine, and with structural changes of the ligaments and cartilages. 4. Stiffness of the spine, the curve being fixed by structural changes in the ligaments, cartilages and bone. The treatment of the first and second of these classes would necessarily be largely gymnastic, in the second supplemented by measures to increase the flexibility of the spine. In the third class, where firm structural changes exist, mechanical measures will be required and the difficulties have been such as to seriously tax the surgeon. The authors think, however, that in young children there is hope for relief with proper applications which should be fixed so as to apply, exert and maintain pressure as long as necessary. Their paper is illustrated by figures of cases and appliances which they have used. Three cases are reported.

141. **Tuberculosis.**—Otis maintains that with proper measures it is probable that tuberculosis can be largely eradicated, and quotes the history of leprosy in Europe as a corresponding illustration. He makes a plea for sanatoria for isolation and treatment, and outlines a plan for the management of the condition and prevention of tuberculosis in a city like Boston.

142. **Astringents in Intestinal Catarrh.**—Noticing the changes in practice as regards the treatment of diarrhea within the last twenty years, and the modern dependence on antiseptics in these disorders, Meier maintains that there is still a use for intestinal astringents in the treatment of these cases.

144.—See abstract in JOURNAL, August 26, ¶ 127, p. 537.

145. **Urine in Pregnancy.**—Stewart reviews the work of investigators on this subject. See title 16, p. 852.

146. **Uterine Cancer.**—The importance of early diagnosis of uterine cancer is insisted on by Ashby, who points out that its origin is often insidious, and that it may reach an advanced stage before alarming symptoms appear. The early symptoms simulate simple functional disturbances of the menstruation, but hemorrhage during or subsequent to the climacteric should always be promptly investigated, and all forms of uterine disease not responding to judicious local treatment should arouse suspicion and lead to a microscopic examination. Lesions about the cervix should be corrected, or at least examined at short intervals. When in doubt as to the cause of uterine disease, investigate for cancer.

147. **Faddism.**—McConachie notices the medical superstitions of the day, and points out the methods of cure of disease

and its limitations. He believes that we should teach the public these facts and in this way correct the growing tendency to superstition and fads.

148. **Medical and Surgical Treatment.**—Platt notices the lack of details as to treatment in modern medical works, and deprecates the fact.

149. **Demonology in Medical Practice.**—Kiernan notices some modern medical superstitions, including "Christian Science," Dowieism, etc., and attributes them to the influence of commercial conditions, raising individuals of a low grade of culture to comparative affluence. Thus these superstitions ostensibly appear in the higher ranks of society.

FOREIGN.

British Medical Journal, September 2 and 9.

Bacillus Diphtheriae in Milk. J. W. H. EYRE.—The author reports on examination of the milk in an epidemic of diphtheria which occurred among the inmates of a large school, receiving its milk-supply from one source. He gives the details of his experiments, the results, staining reaction, and culture character of the germs found, and shows that the typical appearance of the diphtheria bacillus was clearly recognized.

Early Decay of Teeth in Britain. JAMES CANTLIE.—This author calls attention to a condition of things which we had not supposed was so prevalent in Great Britain as in this country, but it appears that the children's teeth in Her Majesty's dominion are suffering more at the present time than was formerly the case. He believes that the cause is to be found in deficient and artificial feeding in infants. This causes abnormal development of the jaws, which is the source of nasal abnormalities, and the arched jaw, which is coming to be so common, is produced within the first twelve months of infant life by abnormal feeding. The early decay of the teeth is one of the symptoms of want of care of the infant. He calls for a commission of the British Medical Association to investigate the subject, and to ask for the co-operation of the Americans, and probably also the Germans, French and Italians in this matter.

Frequency of Sick-Room Infection in Typhoid Fever. HERBERT BECK.—The observations and deductions of this paper are derived from 206 cases of typhoid fever observed by the author during the 6½ years ending September, 1898. He investigated all the probable cases of typhoid among these patients and tabulates them. He finds that 13.5 per cent. of the cases investigated were certainly due to sick-room infection. Other cases were probably due to this, but he prefers to exclude them from his percentage as not being absolutely proved. His conclusions are that sick-room infection is more common than is ordinarily supposed, and that its dangers do not receive the attention they deserve. It is much more common in the small crowded houses of the poor than in the large dwellings of the well-to-do.

Prolonged Standing and Women's Diseases. STUART NAIRNE.—The author has here prepared tables showing the effects of prolonged standing in the production of gynecologic disorders, and concludes that 7 per cent. of unmarried shop girls only come for medical attendance, but 40 per cent. of married women who have been shop girls come under medical attention at a very early period in married life, namely, mostly under 30 years of age. Out of the 7 per cent. of single women, 3 per cent. come with diseases special to women, and out of the 40 per cent. of married 21 per cent. with the same class of disease, so that we have a clear 30 per cent. who are or have been shop girls, suffering from these special diseases. "Why should there be," he says, "comparatively such a small percentage of single girls in actual employment under treatment, and such a large percentage of married women? This looks very extraordinary at first sight, and seems to somewhat minimize the importance of the position I have maintained. A moment's consideration will, however, put this right. The girls in work are, as a rule, kept busy from morn till night; they are young and have not yet exhausted their energies; they have little time to rest and no time to complain. Parents and masters are alike frequently unobservant of the early symptoms of exhaustion and overwork. The girls themselves are anxious to work; they like to be considered strong, the world is before them, and much brighter if they look or pretend to be healthy. They are much more likely to form a suitable 'match' if they are strong, and therefore they go on, and only the 3 per cent. come for advice and assistance who can go on no longer. Now, with regard to the 40 per cent., the alarmingly large proportion of 27 who suffer from special uterine and ovarian disease shows emphatically that it is no chance illness, but that it must be a regular and frequent consequence of some condition of their daily work. One of the conditions, and I have no hesitation in saying it, one of the most potent, is the long period of standing and hanging about on their feet."

Psilosis or Sprue: Its Relations to Other Forms of Tropical Diarrhea and Its Treatment. GEORGE THIN, EDWARD HENDERSON, JAMES WATSON, W. J. BUCHANAN and others.—Thin takes up the subject of psilosis or sprue, which includes, according to his view, a considerable range of tropical diarrheas. Following, Henderson takes up the classification of cases, pathology and treatment, and Watson reports a case and considers the treatment. Buchanan's views are as follows: 1. Primary or protopathic sprue is common among natives of India. 2. Secondary sprue following on *a*, dysentery; *b*, acute enterocolitis or enteritis, is common. 3. Incomplete or arrested sprue is probably very common. 4. The condition known as "famine diarrhea" is essentially the same in its symptoms and ultimate results as sprue. 5. In many cases of chronic relapsing dysentery, a condition strongly resembling fully-developed psilosis is met with, and characteristic frothy pultaceous diarrhea alternates with the dysentery. In the discussion following, Dr. Manson said that this condition is not to be regarded as one disease, but as a variety of diseases with a series of common symptoms. There was no exclusive treatment, and there would not be until its etiology was known. The general principles, however, were the same for all types, that is, physiologic rest, rest in bed, warmth and simple diet. Dr. Sambon does not agree with Dr. Thin in recognizing two separate varieties. He thinks much importance should be given to its geographic distribution, which separates it from dysentery and hill diarrhea.

Insects, Arachnids, and Myriapods and the Propagation of Infective Diseases of Man and Animals. GEORGE H. F. NUTTALL.—The part played by insects in the dissemination of disease is summarized by Nuttall, who classifies them in two groups, the passive and active. Among the diseases passively carried by insects, we have anthrax, plague, typhoid fever, cholera, yaws, etc. In most of these cases flies have been the transporters, but ants and other insects may have their share. The active transmission of disease through the agency of insects that may act as intermediary hosts and convey the disorder by being passively eaten, or actively by their bites, are numerous, and he gives quite an extensive table of these forms. The animals that may act as definite hosts of the parasite include many of our domestic animals as well as the household pests, rats, mice, beetles, bugs, etc., and the intermediate hosts are equally numerous.

Hemoglobinuric Fever and Paludism. W. H. STALKARTT.—After reviewing the nature, distribution, symptoms and etiology of blackwater fever, the author says: As far as our knowledge at present goes, it would seem that: 1. Blackwater fever is only found associated with malaria. The circumstances under which it occurs, or which appear to be propagating factors, would indicate this. 2. Blackwater fever is not simply malaria, but a distinct disease, possibly malarial in nature, due probably to an organism having a specific action, or one of peculiar intensity, in giving rise to great blood destruction. 3. Quinin is not the cause of true blackwater fever, although in certain cases it may aggravate it. 4. Quinin has been distinctly beneficial in this malady; to what extent is uncertain, but with mixed malarial infection, or in warding off subsequent malaria, it should be given a foremost place. Few, indeed, would care to omit it from their medicinal equipment. In the main these conclusions were supported by those who took part in the discussion.

Thermic Fever (So-Called Siriasis), With Special Reference to Its Alleged Microbic Causation. KENNETH MACLEOD, C. M. GILES, L. W. SAMBON, PATRICK MANSON and others.—In opening the discussion on thermic fever, Macleod questioned the parasitic action of microbes in this condition as had been suggested by Sambon. He criticizes his argument and

maintains it as reasonable that fatigue of the heat-regulating nerve-centers, as well as to the heat-dispensing agency, is an essential, or the essential, factor in the production of thermic fever. Sambon in reply repeated his argument, referring to the micro-organism of Cagicol and Lapierre, though he has not been able himself to confirm it. He alludes to the geographic distribution of sunstroke, claiming that in some of the hottest parts of the world it does not occur, and holds that the theory attributing the disease to heat alone is purely hypothetical, and does not agree with post-mortem findings. The only theory that fully covers the natural history of siriasis is the parasitic. He quotes Van Giesen, that there is no other interpretation open, as to the significance of the acute parenchymatous degeneration of the ganglion cells of the nerve-centers, than the action of a toxic substance in these cells. Manson supports Sambon, while Wood, Watson and others take the opposite view.

Lancet, September 9.

Recrudescence of Plague in the East, and Its Relations to Europe. W. J. SIMPSON.—The author, after reviewing the history of European invasions of the plague, considers the present one rather a pandemic than an epidemic and possessing what other plague epidemics for the last 200 years have lacked, the quality of diffusiveness, which defies the precautions hitherto used against its progress. The present commercial conditions are favorable to its diffusion, but fortunately we are better prepared with preventives, especially the Haffkine serum.

Mediterranean or Malta Fever, with Special Reference to the Specific Agglutinating Substances Which Make Their Appearance in the Blood in the Course of That Disease. C. BIRT and G. LAMB.—This paper is rather an extensive one. The authors describe the biologic character of the micrococcus, the effect of specific serum on it, and the appearance, etiology and significance of the agglutinating substances in the blood as an aid to prognosis. They hold that an abundance of agglutinins seems to be a favorable indication, while their decrease justifies caution in prognosis. They also quote, as giving the same findings and results, the memoir of Courmont of Lyons.

Medical Press and Circular (London), September 6.

Albuminuric Retinitis. SAMUEL WEST.—West brings this communication to a conclusion by summing up the facts which he thinks justify the drawing of a sharp distinction between the two forms of albuminuric retinitis, the degenerative and the exudative. He says they stand in strong contrast with each other in the following respects: 1. Of the forms of disease with which they are usually associated: the degenerative with granular kidney, the exudative especially with parenchymatous nephritis. 2. Of their nature and cause: the exudative being inflammatory and probably toxic in origin, the degenerative consequent on vascular changes and more or less mechanical in origin. 3. Of sight: for the exudative, even in extreme forms, may recover, with little or no defect of sight, but with the degenerative, if there is any impairment of sight, it is usually progressive. 4. Of diagnostic value: the exudative being an interesting by-phenomenon of chronic parenchymatous nephritis, an affection the existence of which is obvious enough, while in granular kidney the degenerative often makes the diagnosis certain in cases which have been hitherto obscure. 5. Of risk of life; for while in both cases it indicates a grave form of renal disease which may of itself prove fatal, in granular kidney it indicates in addition all those dangers to which arterial disease exposes the patient. He thinks, therefore, that the distinction is not only justified by the facts, but explains many of the apparent contradictions which are made by different authors.

Alcoholism in Its Relation to Heredity. GEO. ARCHDALL REID.—The author reiterates here his well-known views as to the racial immunity produced by alcohol. He claims that races and nations crave for alcohol in inverse proportion to their past familiarity, and that the plan of abolishing drink will destroy the immunity and in time produce aggravation of intemperance and its effects.

Practitioner (London) September.

On Achondroplasia. WILLIAM TURNER.—Achondroplasia is the name here given to a condition having some of the peculiarities both of fetal rickets and of cretinism. The title, however, is criticised, as it gives the idea of there being no growths of cartilage cells, while the reverse is the case, but it is not in such a direction as to increase the length of the bones. The essential change, according to those who have studied this condition, Shattock, Barlow, Ziegler and Kaufman, is located at the line of ossifying cartilage where the epiphysis joins the diaphysis. Here the cells are altered in size, shape and arrangement, becoming larger and more spherical, while the columnar arrangement is deficient or altogether lacking. There is, therefore, no attempt at the formation of primary bone areolæ, and consequently no increase in the length of the diaphysis. With this there is a fibrous ingrowth of the periosteum between the epiphyseal cartilage and the adjacent diaphysis, completely preventing the possibility of the cartilage cells developing into bone areolæ, and there is sometimes non-union of the diaphysis and epiphysis during life. Together with these changes there is a premature synostosis of the basi-occipital and basi-sphenoid, so that the growth of the base of the skull ceases and the depressed condition of the bridge of the nose, always present at birth, persists. The bones of the calvarium are not impeded in their growth, and the skull is comparatively larger than usual. With these changes there is also thickening of the long bones, and sometimes beading of the ribs. The pelvis is always deformed and small, and there invariably is lordosis. The cause of this change in the cartilage cells is absolutely unknown, and no real cause can be given for the disease. The paper is well illustrated with pictures of the patient described and skiagraphs of the deformity of the bones.

Occurrence of Rheumatic Fever Without Arthritis. C. O. HAWTHORN.—The question as to whether the rheumatic poison may produce pyrexia without the arthritic symptoms is here discussed, and the author reports a case which he considers illustrative. The diagnosis was not at all clear during the febrile state, but later, when the temperature was subnormal, arthritic symptoms appeared. He quotes various authorities who support the view that rheumatism may occur without arthritic disturbances.

Australasian Medical Gazette (Sydney, N. S. W.), July 20.

The Epidemics of 1898. WALTER SPENCER.—The author reports his experience with two epidemics of measles and rubella, 231 cases of the former and 147 of the latter. Of his measles cases, 28 were adults, and 7 of these claimed to have had it before. In 29 instances, second attacks were claimed in children, and 13 of these he had attended at their first, in 1893. He has no notes of second attacks of rubella. From his limited experience, he would say: that the signs and symptoms ascribed to measles and rubella are common to both; that any of them may be absent or modified, and that in measles they are more prolonged and of more severity; that measles or rubella may be expected to confer immunity against itself, but does not invariably do so; that second attacks of measles in children are milder than the first; that Duke's law is consequently not absolute, being subject to limitations which are as yet imperfectly understood. Influenza has been endemic, and for seven years he has seen it every week. For diagnosis he has been led to place most reliance in the sign of Faisan, a sort of opaline film on the tongue, which can not be removed, though sometimes obscured by fur. A puzzling complication of the ordinary variety is the onset of hepatic congestion and severe gastro-enteritis twenty-four hours after apparent convalescence. He found la grippe not only predisposing to other diseases, but also to itself, and his patients suffer from severe successive attacks rapidly following each other.

Observations on Ether Anesthesia Preceded by Administration of Morphia and Atropin Hypodermically. W. C. MCCLELLAND and L. H. L. HARRIS.—The experience of these authors, with the administration of morphin and atropin hypodermically, before ether anesthesia, in 100 cases taken as they came, rejecting only those that proved to have albuminuria, lead them to the following conclusions: 1. The patient's nervous system is quieted, being rendered more susceptible to the influence of ether. 2. The patient becomes anesthetized in a very short time, on an average in less than four minutes; only a small quantity of ether is required to produce and to maintain the anesthesia. 3. Salivation is the

exception and practically never occurs. 4. The patient breathes tranquilly and regularly. 5. The atropin exerts its action on the heart as a stimulant, and thus the patient is less liable to shock following the operation. 6. Should the patient inadvertently come out during the operation, or just before its termination, there is no straining or tendency to vomit. 7. The patient generally emerges from the anesthesia in a gradual and tranquil manner, and seldom complains of pain, sleeping quietly for several hours. 8. The tendency to nausea and vomiting after the operation is greatly diminished, and when present is very slight and does not cause much distress. 9. No deleterious after-effects appear to follow this method.

Intercolonial Medical Journal, Australasia (Melbourne), July 20.

Management of Injuries to Lower Epiphysis of Humerus. R. HAMILTON RUSSELL.—The principal features of Russell's article are his condemnation of the angular splint, which he considers a clumsy, uncomfortable and stupid appliance. His method to treat injuries of the lower humeral epiphysis is that of the late Mr. Syme of Edinburgh. The fragments are brought into good position, by gentle traction of the forearm, held at a right angle, with counter-pressure of the flexor surface of the humerus. A pad of lint is applied to the front of the humerus, and another small pad over the olecranon. A strip of strapping to keep the pads in position, and a figure-of-eight bandage over all completes the retentive apparatus. It is essential that the arm be retained altogether underneath the clothing. No splint is required. He claims that this arrangement, if applied with moderate dexterity, meets all the requirements. After four weeks the arm is released and gently put into the sleeves, and passive motion, which is another measure he strongly condemns, is never employed. The cases to which he refers appear to be mostly in children.

Journal de Medicine et de Chirurgie (Paris), lxx, 15.

Syphilis Contracted After Sixty. LEBARD.—Untreated syphilis contracted after 60 years of age is almost always fatal. Thirteen observations, reported by Lebard, indicated that the incubation is longer, cicatrization extremely tardy, adenopathy very voluminous and diffuse, and extragenital chancre unusually frequent. Emaciation, asthenia and anorexia appear with the secondary period, with frequent nervous and psychic disturbances, iritis and cutaneous manifestations. The tertiary period follows closely, and gummata are not infrequently observed during the first year. Treatment should be exceptionally prompt and effective, sparing the stomach. Lebard endorses Gaucher's subcutaneous injections of benzoate of mercury, 1 to 2 cg. a day, potassium iodid given early and careful local treatment.

Presse Medicale (Paris), August 30 and September 6.

Tabetic Laryngeal Paroxysmal Attacks. TOUCHE.—Forty patients with tabes were examined in reference to the frequency of laryngeal attacks and their relation to visceral attacks or crises, as the French call them. It was found that more than one-fourth were affected with them. The intensity was variable, ranging from fatal suffocation in one to a few pertussis-like coughs. An isolated laryngeal crisis was rare. It was usually associated with a gastric, very rarely with an isolated diarrheic, crisis; usually with a gastric crisis associated with a rectal and diarrheic one.

Social Danger of Syphilis. FOURNIER.—In this address, presented to the International Prophylactic Conference at Brussels, Fournier paints the picture of the damage inflicted on individuals, families, children, children yet to be born and children's children, in the blackest colors and asserts the unquestionable right of society to protect itself against this scourge, to protect the innocent and those who do not care for protection, but who must be protected because of the contagion from them of others who do not expose themselves. "It is the right of society, it is the duty of society."

Social Danger of Gonorrhea. NEISSER.—This address, similar to the above, urges the necessity of educating the public to the dangers and significance of venereal affections. "If physicians and the public only utilized what science has established in regard to them, individual protection would be more effective than all legal and administrative measures in preventing their propagation."

Progres Medicale (Paris), September 2.

Typhoid Fever at the Bicetre Hospital. BOURNEVILLE.—An epidemic of twenty-one cases, occurring among the idiot children at Bicetre, was noticeable on account of the mortality—six deaths—and the peculiar state of excitement which marked the disease instead of the usual stupor; the idiots seemed to acquire increased mental powers; also the predominance of pulmonary symptoms masking the gastrointestinal, and the difficulty of diagnosis where the first symptom to call attention was the lack of appetite, no details being obtainable from the subjects. Another feature of the epidemic was that seven patients were epileptics, and all seizures were suspended during the disease. This inhibiting effect has persisted since recovery, only one or two attacks having been noticed since in all.

Revue de Gynecologie (Paris), August.

Solid Tumors of the Ovary. L. DARTIGUES.—Among the general conclusions of this comparative study of these neoplasms, from the literature, classified as fibroma, sarcoma and their mixed forms, and cancer or "massive and medullary epithelioma" we note that the malignancy increases with the frequency and also with the age of the subject. Hereditary neoplastic antecedents seem to be rare; when encountered, there was no similitude between the nature and site. Bilaterality increases with the malignancy; fibroma is usually unilateral, while cancer is almost invariably bilateral. A knobby appearance usually coincides with malignancy, also a deep red or violet color. The hematic color of the ascitic fluid is another characteristic of malignancy. Fibroma is of a solid consistency; sarcoma more resistant. Cancer is hard, almost woody, although friable. The variety of tissues constituting the ovary explains the variety of neoplasms which develop from it, and the transformation of one kind into another. Generalization is rarer and less rapid with sarcoma, and does not follow the lymphatic route, like cancer, but occurs at a distance and more scattered. The grafts of cancerous tissue observed in wounds of laparotomies for extirpation of cancer plead for its inoculability, and impose extreme caution on the surgeon not to allow any of the cancerous matter to come in contact with any cut or denuded surface.

Mechanical Seismotherapy in Gynecology. F. JAYLE.—This new term is derived from the Greek word for earthquake, meaning to express treatment by rapid regular vibrations imparted to a part of or the whole body—an improved kind of massage, simpler and less fatiguing, and free from the disadvantages of manual massage of the vagina. Except in cases of tumors or suppurations of the uterus or adnexæ, it will be found an excellent palliative treatment, reducing congestion and intestinal atony, favoring the circulation in the intestines and favorably affecting the local and general nervous system. Thirty-six observations and the small electric apparatus are described in detail.

Abdominal Migrations of Abscesses of the Liver. J. FONTAN.—An abscess on the point of migrating into the abdomen usually forms an arching protuberance along the lower margin of the liver, elongating down into the abdomen, while perihepatic friction has disappeared; edema of the wall extends over the abdomen; pus obtained by puncture is white or grayish instead of chocolate. As a general rule the incision must hug the lower limit of the thorax, corresponding to the normal position of the liver, as after operation it usually recedes to its normal position, and it is very important to maintain the parallelism between the wound and the organ, to promote drainage, etc. The migrating pus shows a tendency to follow the anterior abdominal wall, and in one autopsy the hepato-peritoneal abscess extended across the abdomen to the crural ring, like a vase, broad top and bottom, entirely in front of the intestines. If diagnosed in time, intervention would have been easy and effective. Another case had pain at the umbilicus; palpation of right side of the abdomen extremely painful but no marked "doughiness," bilious vomiting, slight fever, and a history of sudden pain two months before in the right iliac fossa. During tropical dysentery, two years before, there was pain in the liver, but hepatitis was not suspected. Appendicitis was diagnosed. The operation showed the peritoneal cavity, especially in the small pelvis, full of yellow pus which had emigrated along the colon from a focus in the in-

ferior aspect of the liver. When the abscess opens into the intestine the liver does not evacuate all its contents and still requires an operation, even if the intestine has healed over at the point of juxtaposition when the liver has retracted. In most cases the contents of the intestine back up into the liver and produce severe infection. In one of his observations he found both liver and intestine gangrened, requiring marsupialization, and an anus in the hypochondrium. The recovery demonstrates that these cases can be successfully operated on even *in extremis*. Migration into the stomach is so grave that the mere menace of it requires operation, as when an abscess of the liver presses on the stomach and causes vomiting.

Value of Electro-Hemostasis. C. JACOBS.—This communication describes the use and results of Skene's electric forceps, —described in the JOURNAL, xxxii, March 4, 1899, p. 490—and "numerous tests which have brilliantly confirmed all and more than the American surgeon claims for this new method of hemostasis."

Centralblatt f. Chirurgie (Leipsic), September 2.

Improved Technic for Ensuring Good Weight-Bearing Stumps After Amputation of the Leg. A. BIER.—It is generally conceded that Bier's method—retaining a living bone flap for the base of the stump—insures the best stumps, but the double amputation required has deterred many surgeons from adopting it, although time and experience have confirmed its great value. He now describes a modification which obviates the necessity of the two amputations, the cutting of the bone flap and the amputation being all performed with one sweep of the saw. The cutaneous incision is the same as described in his original communication, in No. 31, 1897, starting very high on one side and brought down very low on the other, the flap thus formed turned up on the leg like a high collar on a woman's jacket. The bone flap is then cut out, using a strong, slightly modified Helferich bow saw, the span very wide and high, the blade not wider than 3 mm. from the tip of the teeth to the back, and inserted in the bow almost at a right angle to its plane. In making the first transverse incision—the depth corresponding to the desired thickness of the bone flap, and the distance below the turned up skin flap corresponding to the area of the base of the stump to be covered—the bow is held sloping to the left. When this is completed the blade is turned parallel to the surface and the bone flap is sewed up nearly to the base of the skin flap, with the soft parts left projecting on all three sides of the bone flap to afford a good hold for the stitches. A wedge is then inserted under the bone flap, and by slanting the bow to the right the upper end of the bone flap is cut across on a line with the first incision, approaching the surface and stopping just short of the periosteum, the final connection of the bone broken by prying up with the wedge. The end of the blade of the saw is then transferred to a hole just beyond, in the bow, which brings it into the same plane as the latter, and the entire leg is sawed across just above the bone flap and below the turned-up skin flap. The four-sided bone flap is then brought across the base of the stump and sutured to the soft parts, and the skin flap brought down over it from the other side and fitted over the end of the stump, the operation completed by a short transverse suture of this flap a little distance above the end of the stump.

Deutsche Medicinische Wochenschrift (Berlin), September 2.

Surgical Intervention in Hysteria. M. SANDER.—A man of 23 presented the clinical picture of intestinal occlusion, and a young woman, that of perforating peritonitis. Each was operated on and everything found normal, the first undergoing operation twice and the second four times, until it was suggested to tattoo "Beware" on their abdomens. Sanders thinks that such mistakes could be avoided by more careful search for hysteric antecedents. In the observations reported, the lack of proportion between the pulse and the fever, and also between the general appearance and the severe symptoms, the rapid changes in the symptoms, their severity in the presence of the physician and subsidence in his absence, combined with evidences of hysteria, should have warned against intervention. He also notes the "elective" character of the vomiting, and that meteorism can be caused by voluntary swallowing of air. He classes hysteria as a form of degenerative psychosis with many points in common with the severer forms. Hospital treatment is directly injurious. The patient should be in a "closed establishment" and all his complaints systematically ignored and attention diverted, with general tonic treatment, suggestion and faradization later.

Partial Substitution of the Cornea. KUHNT.—An experience with nearly a thousand patients in the last fifteen years, with ulcerative processes, perforations after ulcerations, or after removal of fresh or old prolapse of the iris, fistulæ, keratoceles, incipient partial staphylomata, injuries with or without an opening into the inner eye or after various operations, all treated by applying a flap of the bulbar conjunctiva with or without a stem, as the substituting plastic material, enables Kuhnt to affirm the extreme benefits derived from this simple process. The shape of the eye is retained, and sometimes part of the vision, even after severe injuries or lesions. The flap is sometimes left attached at both ends, sometimes re-enforced with a second flap, freshening the edges of the wound before covering it. In case of an ulceration, after evacuation and cleansing, the flap is applied, and the success is surprising. Pain disappears and healing is complete in five to seven days, after which the flap gradually vanishes, finally leaving nothing but a kind of *pannus tenuis*.

Muenchener Medicinische Wochenschrift, September 5.

New Problems in the Pathology of the Cell. E. ALBRECHT.—Further investigation has confirmed Albrecht's announcement of the fluid character of the cell: that the nucleus as well as the nucleolus of the immature cell, also the mature nucleus of the ovum, the segmentation nucleus and the nuclei of the blastomeres, are all drops of fluid in a likewise fluid cell body. They all have the properties peculiar to fluids, and these properties alone. The conclusion follows that all physiologic alterations in the shape of the cell must be interpreted according to the laws of fluid bodies, processes of mixing and unmixing, etc., e. g., such as we might imagine if we were able to restore, to its original form, the drop of fat saponified and dissolved in an alkaline solution. It is evident that various causes will affect the different elements in the cell differently, and numerous experiments with cells from warm and cold-blooded animals, suddenly heated or exposed to the action of diluted acids, showed a production inside the cell of a moderate number of tiny granules. It is impossible to determine, however, whether this fractional precipitation of living substance corresponds to the albuminous substance or to more complex combinations in the cell, and whether these changes regress or not, that is, whether they are localized lesions or partial necrosis. The direct microscopic picture, as well as the microchemical reactions, establish that at least a large part of the contents of the cell in cases of fatty degeneration, "coagulation necrosis," and albuminous degeneration of cloudy swelling, are coagulated bodies in the physiologic chemistry sense. The question then arises: Is coagulation necrosis a necrosis of the cell from or with coagulation, or is it merely a necrosis with consecutive, post-mortal accidental coagulation? Whether we regard the cell as a living element or an agglomeration of chemical substances, its complete physical interpretation must proceed from the premises of our knowledge of nature. The first and foremost question is, therefore, the "aggregate condition" of the mass. To determine this by objective methods is the most important task of cytophysics for the future.

Wiener Klinische Rundschau, September 2.

Parenchymatous Keratitis in Acquired Syphilis. E. ROUBICECK.—While specific treatment is unmistakably effective in this affection with acquired syphilis, mercurial inunctions have no effect on congenital cases, and hence inunctions are not applied to children in Deyl's clinic. Roubicek reports several observations which differ in several points from the schema established by Valude: he claims that in case of acquired syphilis the keratitis is unilateral, disproved by two of the observations; also that the pain is less than in congenital cases, with no lachrymation or shrinking from light, which was the reverse of what was observed in another case. But the observations confirmed his other points: the lesser vascularization with acquired syphilis, and the fact that the cloudiness of the cornea commences at the edge with distinct cloudy patches which slowly merge together. With congenital syphilis the tongue-shaped patches of cloudiness soon spread over the entire area of the cornea. Many cases of the affection with ac-

quired syphilis have probably been included with the congenital, especially in children, as we are apt to forget that children can acquire syphilis. Roubiceek considers it almost impossible to distinguish between interstitial keratitis from acquired or congenital syphilis, as experience has shown that Hutchison's stigmata can occur with acquired syphilis. Fournier advises the following questions: syphilis in the family; do the parents acknowledge it; syphilitic stigmata on them; occurrence of abortions, premature births, eclampsia and convulsions, bearing in mind the possibility of lead and tobacco intoxication, as women in tobacco factories abort regularly.

Zeitschrift f. Hygienie u. Inf. (Leipsic), xxxvi, 2.

Blackwater Fever (Hemoglobinuria). R. KOCH.—A large number of observations (41) are reported, which sustain Koch's previous assertions that blackwater fever is an acute intoxication with quinin, in persons who are naturally peculiarly susceptible to this drug or have acquired this idiosynerasy from malarial infection or the continued use of it. One observation is particularly interesting: a person who had always taken a gram of quinin without inconvenience, became so sensitive that finally a half, a quarter or a tenth of a gram induced the typical attack of blackwater fever—chill, hemoglobinuria. He does not attempt to explain why this fever is frequent in some localities and rare in others, and adds that hemoglobinuria has also been observed in connection with the administration of phenacetin, natrium, salicylate, antipyrin and phenocol.

Gazzetta degli Ospedale e delle Clinische (Milan), August 27.

Prognosis of Hydrophobia Complicated with Albuminuria. G. GRAZIANI.—A number of experiments on rabbits, and personal observations, have shown that the congestion of the kidneys with the other organs leads to albuminuria by the action of the virus on the renal lesion, and when this has occurred the antirabic treatment is powerless to arrest the disease at this stage, and the prognosis is exceedingly grave.

Injections of Phenic Acid in Tetanus and Erysipelas. S. PASCOLETTI AND S. TERESI.—The first writer describes two cases of tetanus cured with Baccelli's subcutaneous injections of 1 to 2 per cent. solution of phenic acid. The other describes his successful treatment of four cases of generalized erysipelas with similar injections *at a distance from the localized lesions.* Both comment on the tolerance of subjects with tetanus and erysipelas for large doses of phenic acid, and its prompt influence on the pathogenic agents and their toxins, which they ascribe chiefly to a modification of the soil.

Nord Medicale (Lille), September 1.

Vulvar Edema and Gangrene in the Puerperium. V. BUÈ.—In one of the observations described, the enormous edema was the classic albuminuric type; in the other, its early appearance, the coexistence of twin pregnancy, and the absence of albuminuria indicated that it was due to compression. Both cases were scarified and gangrene ensued. The first died, the other recovered. Buê adds that rest and milk diet may relieve the albuminuric type, but not the other, and warns that scarification should only be done in case of extreme necessity and the resulting wounds closely supervised.

Societies.

COMING MEETINGS.

Mississippi Valley Medical Association, Chicago, October 3-6.
Idaho State Medical Society, Lewiston, October 5-6.
Utah State Medical Society, Salt Lake City, October 6-7.
Wyoming State Medical Society, Laramie City, October 10.
American Academy of Railway Surgeons, Omaha, Neb., October 12-13.
Vermont State Medical Society, Burlington, October 12-13.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 24-26.
New York State Medical Association, New York City, October 24-26.
Medical Society of Virginia, Richmond, October 24-26.
American Public Health Association, Minneapolis, Minn., October 31.

New York State Medical Association.—The preliminary program of this Association, which holds its sixteenth annual meeting October 24 to 26, in the New York Academy of Medicine, New York City, has been received. There will be a discussion on typhoid fever, participated in by Drs. Herman M. Biggs, William Osler, Reginald Fitz, A. Jacobi, W. W. Keen and others, with a medicolegal symposium on expert testimony. In addition the program announces a large number of miscellaneous papers by leading practitioners, and a reception on the evening of October 25, to Dr. W. W. Keen, president of the AMERICAN MEDICAL ASSOCIATION.

Executive Health Officers of Ontario.—The fourteenth annual session of this association met in London, Ont., September 13 and 14, Dr. McRae of Guelph, the chairman, presiding, and Dr. J. J. McKenzie, Toronto, acting as secretary. A large number of the health officers from all over the province were present. Dr. J. J. McKenzie, bacteriologist of the Provincial Board of Health, read a paper on the "Odors of Water Supplies," and after that had been fully discussed, read another prepared by Dr. McDonald of Hamilton, on "Tuberculosis in Cattle." This paper elicited a very interesting and animated discussion, several of the members differing as to the amount and also the causes of this disease in Canada. On the morning of the second day, the delegates visited the asylum for insane, and inspected the sewage farm in operation there; afterward papers were read on "School Ventilation," by Mr. A. B. Shantz of Caledonia; "Anthrax," by Dr. W. T. Connell, Kingston, and one, "Sewage Disposal," provoked a long discussion which occupied the major part of the afternoon session.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of Proceedings of Twelfth Annual Meeting, Held at Indianapolis, Ind., Sept. 19, 20 and 21, 1899.

FIRST DAY—MORNING SESSION.

The Association convened in the Century Club Rooms of the Denison House, under the presidency of Dr. Edward J. Ill, of Newark, N. J.

An address of welcome was delivered by Mayor Taggart, which was responded to by the President.

After the transaction of routine business in executive session, the reading of papers was proceeded with.

THREE RARE CASES OF KIDNEY CYSTS.

DR. JAMES F. BALDWIN, Columbus, Ohio, reported these cases:

CASE 1.—*Enormous Hydronephrosis Simulating Ovarian Cystoma.* The tumor in this case filled the entire abdomen and entered the true pelvis, pushing the uterus to the left. The patient was unaware of the existence of any tumor, but thought that she had been getting stout for two years. There was no history whatever of any disturbance about the kidney. The enlargement was much more marked on the left side of the abdomen. At the operation the tumor was found to be hydronephrotic, of the right side, and with entire destruction of all kidney tissue. The blood-vessels had so far disappeared that the only pedicle was an enormously distended ureter resembling a piece of small intestine. The cyst, which was retrocolic, was enucleated without special difficulty, and recovery was uninterrupted.

CASE 2.—This was a large paranephric cyst containing about one and a half pints of straw-colored fluid resembling urine. The cyst wall was exceedingly thin, but was successfully enucleated and the cavity closed with temporary drainage. Healing occurred by first intention.

CASE 3.—*Hydronephrosis of a Retrorectal Congenitally Misplaced and Sarcomatous Kidney.* This tumor filled the pelvis, pushing the uterus up and pressing so firmly on the urethra as to necessitate the use of a catheter. The rectum was so pressed on as to render defecation almost impossible. After separating the tissues the cyst was tapped through the vagina and about one quart of urinous fluid drawn off. The completion of the enucleation had to be made through the abdomen. The specimen proved to be a sarcomatous kidney congenitally misplaced in the pelvis. During the development of the disease, hydronephrosis resulted, giving rise to the cyst which obstructed the pelvis. The patient recovered without difficulty and continued well at the time of the report.

While hydronephrosis simulating ovarian cystoma is not excessively rare, paranephric cysts, of any considerable size at least, have been very seldom reported. The case of hydronephrosis of a pelvic kidney is, so far as the reporter could ascertain, after a somewhat extended correspondence, entirely unique.

DR. JAMES F. W. ROSS, Toronto, Ont., called attention to a point in connection with the diagnosis of cystic tumors of the kidney, and it was this: Given a tumor that is unilocular by fluctuation, but looks like a multilocular tumor, in consequence of the striæ it is always a tumor of the kidney, and not of the ovary. He also drew attention to one other point, relative to the treatment of the ureter. He believes that if the end of the ureter is tied with catgut, it can be left in the course of nephrectomy, and he does not think it is necessary to follow the ureter down to the bladder.

DR. LEWIS S. MCMURTRY, Louisville, Ky., concurred in the remarks of Dr. Ross in regard to dealing with the ureter. In a number of cases of nephrectomy that he had done the ureter was not dilated as much as in the case described by the essayist. In one case particularly he did not attempt to trace the ureter up to the bladder and remove it, but left it, and it did not give any trouble.

DR. L. H. DUNNING, Indianapolis, Ind., directed attention to an important diagnostic point in dealing with cysts of the kidney, namely, the presence of the colon in front of the tumor. He has been able to demonstrate this in large sarcomatous tumors of the kidney, and by pumping the colon with air, the distended colon can be seen running over the outer border or center of the tumor. He has removed three kidneys for tuberculosis. In one instance he did not tie the ureter; he did not dissect and remove it far down toward the bladder, and he had considerable trouble in that case, following it for some time. He thinks it is unsafe, in tuberculosis of the kidney, to leave the ureter, and believes it ought to be removed low down in the pelvis and tied wherever it is left, and not followed down clear to the bladder.

DR. J. HENRY CARSTENS, Detroit, Mich., said that surgeons always had more or less difficulty in making the diagnosis in the cases under discussion, and while the point brought out by Dr. Dunning was a good one, it did not always hold good. He recalled one case in which he supposed he had an ovarian tumor, but found a hydronephrotic kidney as large as that of the first case reported by the essayist. The kidney was very loose, and afterward a stone was found in it. The stone was quite large. He believes that when we have a loose kidney which flops around, it may grow over the colon, and the colon in some of these cases is behind instead of in front of the tumor.

DR. JOSEPH EASTMAN, Indianapolis, Ind.—by invitation—stated that he had recently had a case of pancreatic cyst as large as a good-sized head or larger, and it was very satisfactory to notice the ascent and descent of this tumor during inspiration and expiration, a thing not possible if the tumor had been post-peritoneal or connected with the kidney. The pancreatic cyst had distended the mesocolon to such an extent that the transverse colon was very perceptible, lying across in front of the enormous pancreatic cyst; so the diagnostic point mentioned by Dr. Dunning, he thinks, is applicable to pancreatic cysts.

DR. JOHN M. DUFF, Pittsburg, Pa., narrated an instructive case in which a diagnosis of abscess of the spleen had been made, but a more careful subsequent examination revealed the fact that the tumor was connected with the kidney, as he had suspected. A median incision was made; the tumor had pushed up the mesocolon; the colon was adherent to the tumor around at the side, and the mesocolon was almost ulcerated through. The kidney was removed through the mesocolon. There was no secretion of urine from the kidney, an examination not having been made with the Harris instrument for the purpose of ascertaining the condition of the urine from both kidneys.

DR. DUNNING asked as to the reliability of the Harris instrument, to which Dr. Baldwin replied that it was a very satisfactory one. He had used it several times in the female. It can be used more quickly and with less trouble than ureteral catheterization.

ECTOPIC GESTATION: SHALL THE CASE BE OPERATED ON AT OR NEAR THE FULL TERM, THE CHILD BEING ALIVE?

DR. L. H. DUNNING, Indianapolis, Ind., read a paper on this subject. As preliminary to a discussion of this theme, he reported the history of a case of ectopic gestation of eight months' duration, and operated on five weeks after the death of the fetus. He said that the proper treatment of ectopic pregnancy after the sixth month, when the child is still living, is yet under discussion. He wrote his paper for the purpose of considering only one phase of the subject, namely, shall operative intervention be instituted during the period of viability of the child, or shall we await the death of the child and the cessation of the active circulation of the placenta, and then operate? The settlement of this question, he said, must hinge on the relative mortality of the different procedures to the mother. The ectopic infant is of such low vitality and so frequently deformed that if to rescue it greatly jeopardizes the life of the mother, then ethically one must withhold the hand and permit it to die that the greater life may be saved. Such have been the sentiments of the writer for many years. He has had three cases of ectopic gestation at or near full term. In the first, the operation was done during spurious labor at full term. In this case, although fetal movements were detected one hour before operation, the child never breathed after removal by abdominal incision. The mother died the eighth day after operation, of hemorrhage resulting from the removal of the placenta, which was left at the time of the initial operation. The placenta was removed thus early in consequence of impending death from septicemia. The other two cases were briefly narrated. A statistical table accompanied the paper. He stated that if the tables given by him approximately show the percentage of recoveries to mothers, then there was an answer to the perplexing and heretofore mooted question, "Shall operative intervention be instituted during the life of the child or only after its death?" We are not compelled to longer consider and weigh the probability of the length of life in days of the child, the safety of the mother alone demands intervention. Undoubtedly other questions will urge themselves on us, such, for instance, as, "Is it less dangerous to operate at six months or at nine months, and what treatment of the placenta yields the least mortality?" These are still under discussion, but it was aside from the writer's purpose to discuss them. His only endeavor is to strive to arrive at a correct and fruitful answer of the question, "Is it safer for the mother to be operated upon in a case of ectopic gestation during the viability of the fetus?' He believes that the statistics collected and compiled by him are so nearly complete and correct that the answer may now be given unqualifiedly in the affirmative. There will undoubtedly be individual cases in which the good judgment of the surgeon will direct him to await the death of the fetus. These will be exceptional ones. The rule will be to operate at or near term during the life of the child.

DR. J. HENRY CARSTENS agreed with the essayist that the proper way, other things being equal, is to operate at once when the child is living and viable. The placenta is not always attached to the broad ligament. Often rupture takes place, and the placenta is attached to the intestines, the colon, the rectum, or the sigmoid, and in cases of that kind it is utterly impossible to remove the placenta when an operation is performed when the child is alive. He had seen such operations performed by other surgeons, and the patients invariably died from hemorrhage.

DR. LEWIS S. MCMURTRY endorsed what Dr. Carstens said, with one slight qualification. He thought Dr. Carstens struck the keynote in determining the course to pursue in these cases. By referring to one of the earlier volumes of Transactions of the Association, the report of a case may be found where the fetus went to full term, was dead, and some weeks after a spurious labor, when there were beginning septic symptoms, he operated. No fetal movements had been observed for nearly three weeks. The placenta was very large; there was no sign of any atrophic changes in it in consequence of the death of the fetus; it was spread out over one side of the uterus, over the colon and ileum, and there was such a profuse hemorrhage as will obtain from an attempt to enucleate the placenta as never will be seen at the operating-table under any other circumstances. It was perfectly dreadful, the woman being exsanguinated within a minute, the pelvis being full of blood. When the placenta is disposed toward the broad ligament and uterus, as in the case described by Dr. Dunning, he believes there is a good opportunity for complete enucleation of it.

DR. X. O. WERDER, Pittsburg, Pa., said he had reported, in the Transactions of the Association, a case in which he did a celiotomy for ectopic gestation at full term, or within two weeks of full term, in which he succeeded in enucleating the

placenta and removing at least two-thirds of the sac. The rest of the sac was adherent to the intestines, and he found it advisable to stitch it to the abdominal wall. Hemorrhage during the removal of the placenta was very profuse, but he succeeded in controlling it promptly by clamping the uterine and ovarian arteries. The woman recovered, and the child lived four days.

DR. JOSEPH EASTMAN fully concurred in the conclusions of the essayist, and narrated an interesting case of ectopic gestation that had come under his observation ten years ago.

DR. JOHN M. DUFF believes that in every case of extrauterine pregnancy, as soon as the diagnosis is made, arrangements should be perfected for an operation as soon as possible.

The paper was further discussed by Drs. Gilliam, Ricketts, Ross, all of whom agreed with the essayist with slight differences of opinion.

WHAT SHALL WE DO WITH THE POST-OPERATIVE HEMORRHAGE OF CELIOTOMY?

DR. D. TOD GILLIAM, Columbus, Ohio, presented this paper. Cases of post-operative hemorrhage were cited, and he said he had very little to offer in the way of suggestion. As a burnt child dreads the fire, so his most painful experience in the tragic cases he had cited had imbued him with a wholesome dread of delayed interference after celiotomy. He has on several occasions opened the abdominal incision down to the peritoneum, for hemorrhage from the walls, without untoward result. This class of cases can usually be easily distinguished from intraperitoneal bleeding by the puffed and discolored appearance of the tissues along the line of incision. If he was satisfied that a large vessel had let go, as indicated by the rapid development of symptoms indicative of hemorrhage, he would open the abdomen with the utmost celerity. But the author's paper was not inspired by any hope or expectation of being able to suggest any line of action, his sole object being to elicit an expression of the prevailing views of his fellows. Still he would like to make one suggestion with reference to the medical treatment of such cases, and that is the use of atropin. Some time since he had in charge a young woman who was subject to the most violent and persistent uterine hemorrhage of unaccountable origin. She had passed through many hands before coming to him, and he had tried many of the vaunted remedies without avail, as she could not make up her mind to have a currettage, and during one of her spells she fell into the hands of his brother, Dr. Charles F. Gilliam. He placed her on atropin, with the result that, after the physiologic effects of the atropin became manifest, the bleeding ceased. Since then her attacks have been less frequent and always promptly amenable to the atropin treatment. Other cases followed in the practice of Dr. Gilliam and his brother, among which were some intractable cases that had been curetted, and in every instance so far the hemorrhage had been controlled by the atropin. The results had been so convincing in these cases that had fallen under his observation as to force conviction.

As to the *modus operandi* of atropin, he could only speculate. It is known that it increases the cutaneous circulation, producing a general and marked hyperemia of the surface, and that the cutaneous vessels are capable of containing nearly one-half of the blood of the body, hence by derivation it diminishes the amount of blood circulating in the internal organs. The author thinks it quite likely that the vasomotor action which dilates the cutaneous vessels coincidently and by way of equation constringes the visceral vessels. The duodenal ulcers resulting from extensive burns of the skin would argue in favor of compensatory vascularity. It is not expected that this or any other medicinal agent will arrest the torrential hemorrhage of the larger vessels, such as the uterine or ovarian arteries, but is especially applicable to that troublesome form of hemorrhage which emanates from numerous vessels of smaller caliber.

As to the vital question, when to interfere surgically, and when to refrain, the paper ended where it began—in an interrogation point.

DR. CHARLES A. L. REED, Cincinnati, Ohio, said that when he observes symptoms unmistakably indicative of internal hemorrhage, he wants to get at the bleeding point as quickly as possible. He cited some cases in which he had had to deal with post-operative hemorrhage following celiotomy.

DR. H. W. LONGYEAR, Detroit, Mich., said there was nothing more puzzling than to know just what to do in cases which showed the condition of collapse described by the essayist, indicative of internal hemorrhage. And yet there were other conditions which produced the same symptoms, and the surgeon must use fine discrimination. If he knows a vessel is bleeding, he considers it his duty to cut down and search for the bleeding point, no matter what the condition of the patient may be. In a case of ruptured tubal pregnancy, where there is internal hemorrhage going on, it is the duty of the surgeon to reopen and do the best he can. It is not always easy to find the bleeding vessel. Dr. Longyear cited two cases that had come under his observation in the last two years, that brought this forcibly to his mind.

DR. RUFUS B. HALL, Cincinnati, Ohio, stated that hemorrhage or shock could be determined largely by the operator himself. When a patient is put to bed after an operation, the surgeon is rather well aware whether there is great danger of secondary hemorrhage or not. If the operation has been a complicated one, and a condition is left which adds to the risk of hemorrhage, this materially aids the surgeon in determining whether or not the patient is bleeding or suffering from shock. He would not hesitate a moment to take out a stitch, after the abdomen is closed without drainage, and he believes that without very extensive exploration he could readily and certainly determine whether hemorrhage was taking place or not.

DR. LEWIS S. MCMURTRY called attention to the fact that post-operative hemorrhage was very much less frequent now than formerly. In the early days, before operative technic was improved as it is now, and the drainage-tube was more universally used, it was common twenty-four or forty-eight hours after an operation to see great quantities of blood pumped out of the drainage-tube. Hemostasis was not as thorough then as it is now. To-day the small vessels are carefully ligated. He has pursued the course of securing the ends of vessels with a small ligature, which gives additional security.

DR. J. HENRY CARSTENS dwelt on the differential diagnosis between hemorrhage and shock. He believes in the efficacy of medication for the control of hemorrhage, and thinks that atropin or belladonna is a good thing. He uses them in preference to strychnia.

DR. JAMES F. W. ROSS said that in cases of thick pus-tubes with a very edematous pedicle, the surgeon was liable to have such a hemorrhage, particularly from the edematous pedicle and rotten condition of the tissues afterward. He would not hesitate to remove a stitch, after the abdomen had been closed, and search for the bleeding vessel.

DR. L. H. DUNNING called attention to what he considered a valuable diagnostic sign in differentiating between shock and hemorrhage. He has seen shock occur in twelve, twenty-four, and thirty-six hours after operations. He has also seen patients recover from shock, who could not have recovered from hemorrhage. This differential diagnostic sign is that of irregular capillary circulation or congestions here and there. He recalled three or four cases in which he spent hours at the bedsides of patients, hesitating between shock and hemorrhage, and on the appearance of localized spots, as a purple ear or purple lip, or a spot on the face, he decided it was shock.

DR. X. O. WERDER stated that it is his rule, as soon as he suspects a hemorrhage, after an operation, to take out a stitch, after the abdomen has been closed, and insert his finger for the purpose of making a diagnosis of hemorrhage, and if it is confirmed he reopens the abdominal wound and ties the bleeding vessel without putting the patient under the influence of an anesthetic.

DR. EDWIN RICKETTS, Cincinnati, Ohio, said that whenever ligatures are used, there is one procedure that he wished to refer to, one always resorted to by Bantock, that is, crushing the tissues for one-half or one-quarter of a minute by the heavy jaw clamp, and after the removal of the clamp the ligature is applied. The angiotribe, which is being advocated by some operators, in which the ligature is not used at all, is applied and permitted to remain for two and a half minutes, and then removed, and it is claimed no hemorrhage follows its application. The plan, however, suggested by Bantock, is one that should not be lost sight of in applying the ligature.

DR. WILLIAM H. HUMISTON, Cleveland, Ohio, stated that if each vessel was caught separately, and tied with fine catgut or silk, reinforced by seizing the ovarian artery as it comes off the pelvic wall and inserting one stitch and one near the cornu of the uterus, one need not have hemorrhage. He thinks it is unnecessary to crush the tissues after the method mentioned by Dr. Ricketts.

(To be continued.)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No. 61 Market Street, Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, 100 Washington St., Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Those now members of the Association should send their annual subscription direct to the Treasurer, Dr. Henry P. Newman.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof-sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street Chicago.

Original communications are accepted with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, SEPTEMBER 30, 1899.

ADENOMYOMATA OF THE FEMALE SEXUAL APPARATUS.

In his studies of the origin, nature and destiny of the adenomyomata of the female sexual apparatus, Leopold Landau, Berlin, has developed some new knowledge of an old subject. The new matter has for the most part been accumulated within the last five years, and is so complete that the story of the origin, construction and treatment of these neoplasms may now be told in a purely pragmatic and sequential way.

As early as 1896 Von Recklinghausen observed, in addition to the ordinary fibromata, myomata and fibromyomata of the uterus, certain muscle tumors in which glands and cysts were present. The epithelium of the glands and cysts of these neoplasms, which he denominated "organoid myomata," he believed to be derived, either from prenatal inclusion within the tissues of the coalescing tubes of Mueller, of fragments of the Wolffian bodies, or from cut off post-fetal out-shoots of epithelium, growing from the uterine mucosa deeply into the muscularis.

Landau recalls that the tubes of Mueller, which in the female become the Fallopian tubes, and by the blending of their lower extremities form the uterus and vagina, are so situated in the embryo that the upper segment of each tube lies laterally to the Wolffian body of the same side; also that at a lower point which corresponds to the tubo-uterine junction of post-fetal life, the tube of Mueller crosses the Wolffian duct, coursing in a median-ventral direction, and that the lowest or vaginal segment lies median to the duct of the Wolffian body. With these relations in mind it is not difficult to understand how, as Recklinghausen has shown, fetal inclusion of epithelium from the Wolffian ducts within the substance of the uterine extremity of the Fallopian tube, or the muscularis uteri, could come to pass.

The first substantial proof of Von Recklinghausen's theory is to be found in the fact that these tumors occur with overwhelming frequency in the peripheral layers of the uterine muscularis near the tubo-uterine junction, and are very often bilaterally symmetric.

The second and most remarkable proof consists in the fact that the gland tubules of the adenomyomata under discussion, both in systematic anastomosis and character of epithelium, are strikingly similar to the Wolffian canals. In these tumors there may be traced out the systems of winding, secreting tubules with dilated extremities emptying into a straight connecting tubule or main canal, comb fashion, like miniature parovaria. In other words, we see in a neoplasm of adult life, the complicated anatomic structure of an elaborate embryonic organ.

Landau has always sought for epithelial inclusions whenever a myoma presented which had entangled itself in uterine muscularis, displaying no distinct line of demarcation, and each time with a positive result. Contrary to V. Recklinghausen, he states that adenomata which grow out from the uterine mucosa after birth may arise from the entire mucosa corporis or from a small circumscribed area, and may grow centrifugally through the uterine wall to the serosa and even into the pars uterina tubæ and ligamentum latum. He has shown, moreover, on the basis of L. Pick's observation, that not all of these included epithelial outshoots from the mucous membrane represent post-fetal inclusions, but that some are developed from epithelium and connective tissue which grows deeply into the muscularis—peripheral layers—in fetal life. Pick has found glands of the fetal endometrium corporis occupying the subserous layer of the myometrium in adults, and has demonstrated that myomatous proliferation may take place about such displaced fragments of mucous membrane and remains of the tubes of Mueller. He has shown that mucous membrane adenomata exist, which are primarily of fetal origin.

It is well known that the stroma of the normal mucosa corporis uteri is made up of the so-called cytogenic tissue. In other words, it is a connective tissue composed of abundant round and spindle cells and intercellular substance containing fine reticulating fibers. This tissue is not found in the Wolffian body nor in its post-fetal remains, neither in the epi-ovarium nor parovarium. It is likewise absent in parovarian adenomata showing the scattered arrangement and which have not attained considerable growth. If, however, the Wolffian tubules proliferate extensively, developing many adenomatous systems—closed arrangement—there then appears an accompanying growth of cytogenic connective tissue. The appearance, therefore, of cytogenic tissue in adenomyomata as the stroma of Wolffian body epithelium

is not dependent on the localization of the neoplasm, but on the extent and intensity of the growth, but if epithelium lined tubules are found anywhere in the female genital apparatus where such structures do not histologically belong, the presence of cytogenic connective tissue as their supporting substance gives evidence of their origin from the tube of Mueller or from the mucosa corporis uteri.

Landau very appropriately calls attention to the great practical importance of knowledge of the origin of these neoplasms. He believes that juxta-uterine adenomata, and even voluminous subserous uterine adenomata, despite the diffuse transition of their bases into the normal muscularis, may often be treated successfully by conservative myomectomy.

Pick and Landau have, moreover, encountered adenomata in the round ligament and in the posterior fornix of the vagina. Adenomata of the round ligament are hard, varying in bulk from the size of a walnut to that of a plum. They are not sharply defined from the surrounding tissues. In all cases of adenomyomata of the vagina the neoplasms are situated in the muscularis of the posterior fornix. They project as knotty masses into the perivaginal cellular tissue or protrude, polypus-like, into the vagina. In macroscopic section the fiber bundles are distinct, as in ordinary fibroids. Here and there are scattered yellowish and brown spots of pigment and irregular splits and cracks. On microscopic examination the supporting structure is seen to be composed of atypical fibromyomatous tissue. The little pigmented spots are seen to be gland and cyst formations presenting cylindric and ciliated epithelium.

The adenomyomata of the ligamentum rotundum and posterior fornix offer valuable evidence in substantiation of Von Recklinghausen's theory of the origin of such neoplasms from displaced tubules of the Wolffian bodies. As in the male, the epididymis is transported during the "descensus testiculorum" through the gubernaculum Hunteri, so in the female the cord of the primordial kidney in descending may draw a portion of this embryonic organ down with it into the inguinal canal. The Wolffian tubes, particularly of the distal parovarian segment, may thus descend into the canal of Nuck or into the labia majora.

The transport of epithelium from the primordial kidney through the ligamentum teres uteri to the inguinal region may be assumed without misgivings. Even Kossman, who denies the parovarian origin of uterine and tubal adenomyomata, concedes that the epithelium of adenomyomata of the round ligament comes to this region along the route indicated.

If the Wolffian body is abnormally long and extends down over the dorsum of the sinus urogenitalis, or the canals at its lower pole persist until the tubes of Mueller blend at the sinus, the parovarian segment of the Wolffian body could easily be swallowed up in the dorsum of the uterus or vaginal fornix. The adenomyomata of the posterior fornix present further evidence of their primordial kidney source in the dichotomous branching of their tubules. In the case of those adenomata originating from the epoöphoron we have to deal not with hypothetic Wolffian canals, but with physiologically preserved masses of primordial kidney.

To the adenomyomata derived from the Wolffian body, L. Pick has given the name "meso-nephritic adenomyomata" and to those derived from the mucous membrane the name of "mucous membrane adenomata." The adenomyomata of the female sexual apparatus, therefore, belong to one or the other of these groups, and must not be confused with the ordinary histoid myomata which represent simple circumscribed outgrowths from the muscularis uteri, and which, according to Virchow, are the result of irritative or inflammatory processes and are not developed in any way from displaced epithelium.

THE ORIGIN AND OCCURRENCE OF EOSINOPHILOUS CELLS IN THE SPUTUM.

One of the most conspicuous elements in the richly-colored blood preparation, made according to Ehrlich's method, is the eosinophilous cell. The brilliantly stained granules in its protoplasm make this cell a marked object. Nevertheless, but very little is known concerning the place and the mode of its origin; the opinions of the investigators on these points vary greatly. The occurrence of eosinophilous cells in the sputum, under various conditions, has also attracted considerable attention. Their presence in the sputum is explained in two directly contradictory ways: Ehrlich and others derive them from the blood; but their presence in the sputum in enormous numbers in bronchitis and bronchial asthma without a corresponding eosinophilia in the blood has given rise to the opinion that they are formed in the respiratory tract. Fuchs[1] recently called attention to the possibility that eosinophile cells and free granules in the sputum might in some cases stand in relation to disintegrating red blood-corpuscles. In a case of hemorrhagic pleuritis, undergoing absorption, Klein[2] observed the development of an increasing eosinophilia in the exudate followed by an increased eosinophilia of the blood. It does seem quite natural that red blood-discs should furnish the material for eosinophilous granules, both in bloody exudates and in sputum. These granules are, like the red corpuscles, albuminous, and contain hemoglobin as well as iron. Fuchs found eosinophile cells in large numbers in sputum which was hemorrhagic on account of various processes in the lungs.

Eosinophile cells are, according to Fuchs, also frequently present in large numbers in the sputum in bronchial asthma, in catarrhal bronchitis, passive congestion of the lungs, bronchiectasia, pulmonary infarct, carcinoma and syphilis of the lungs, and also in coryza and pharyngeal catarrh. Teichmüller found these cells in the sputum in 73 per cent. of 167 tuberculous patients, and Fuchs in 66 per cent. of 38 cases. Teichmüller attributes to the eosinophile cell a pronounced protective influ-

[1] Deutsche Arch. f. Klin. Med., 1899, 63, 427.
[2] Cbl. f. Innere Med., 1899, 20, 97.

ence against tuberculosis, and he would in a measure estimate the resistance of the patient on the basis of the sputum eosinophilia. Fuchs does not fully agree in this; he believes that the absence from the sputum of the cells stands in some relation to the presence of fever in tuberculous cases, because the number of eosinophile cells is generally small in fever; eosinophile cells occur in varying numbers in the sputum in all diseases of the respiratory tract not immediately accompanied with fever. These cells are not all of the same origin; some are probably derived from leucocytes with neutrophile granules, others develop by phagocytosis of changed red blood-corpuscles. Neither do they originate in any single definite place, but may develop in practically all organs and tissues. Their general significance may be interpreted as a manifestation of the protective and reparative powers of the organism.

MENTAL ABERRATION AND LABOR DISTURBANCES.

The observation that would-be leaders of men are not infrequently representatives of degenerate and unsound types of mind, is by no means novel. History, modern and ancient, furnishes an overabundance of illustrations of this tendency of the mentally deficient to attempt to dominate the sober but less active minds of the toiling classes. Those of the degenerate type hold atavistic views and wish society to be recognized on the basis of the primordial communal system when the community held all things in common, including wives, and when individual property, with its incentive to the energetic, was not permitted. It may be noted as a historic fact that civilization consisted largely in the emergence of society from this chrysalis stage. The otherwise unsound type of leader may be known by his advocacy of dreamy, supposed reforms, and his expressed desire to tear down every institution of modern social organization. No one of sense, of course, maintains that the present organization of society is perfect, and so all these "cranks," as we call them, get a hearing. A recent uncontradicted published report of an address delivered by an "agitator," well known in his own community for his anarchistic beliefs, on the subject of one of the late labor demonstrations, discloses a marked example of this mental twist.

Referring to the action of a riotous mob, he said: "This wholesale gathering of people opposed to constituted authority was a grand thing. This gathering of mobs will continue. The opposition against constituted authority will grow, and some day the mob will act." "There has been little violence done but there will be some time." "The people will rise up, and mobs will gather to put down constituted authority." To this type of insanity—for who will maintain it is not really insanity?—the rising of the people, to put down by violence authority peaceably erected by themselves for their own protection, is not absurd. Had he but an opportunity, the alienist would here surely find a paranoiac. The true reformer proposes a peaceful remedy for social ills, the insane reformer merely wishes to destroy all restraint on license. The physician, as the only ubiquitous physiologic student of human psychology, has herein a manifest duty to society in pointing out to the untrained the patent earmarks of mental strabismus. In the past the degenerate and the paranoiac have at times accomplished tremendous harm, because the world lacked the data for discriminating between honest solicitude and insane plausibility. To-day the medical profession, with its well-founded psychiatry, must stand between the public welfare and those aberrant minds that seek to upset social order. The paranoiac and the degenerate are abroad in the land, not, it is true, accomplishing as much harm as in former more ignorant ages, but yet doing much to make mankind uselessly unhappy and to hinder true social progress. To the medical profession is committed the great trust of studying and analyzing these mild but infinitely dangerous types of warped mentality. On the profession must rest some at least of the responsibility of continually restricting the influence on the public of these diseased minds.

NO COMMERCIALISM IN SWEDEN.

The medical profession in Sweden enjoys a most enviable existence, if we are to believe a writer in the *British Medical Journal*. This gentleman writes to call attention to the commercialism which he thinks is too prevalent in England, especially objecting to the habit of putting up one's own prescriptions, selling and buying practices, etc. As a contrast, he calls attention to the professional sensitiveness of the Swedish doctors, who do not even send bills for their attendance. "Most Swedish families send their doctor a check once a year; the amount varies according to their means. The doctor does not send a receipt but simply his card, 'with many thanks and wishes for a happy New Year.'" This, we repeat, indicates a very enviable condition for the Swedish doctor, but we are afraid it would not "go" here. We opine the butter would be very thin on the bread of the average practitioner, if the bread itself did not finally come up missing, were the Swedish method adopted in this country. However, the idea is a beautiful, yes, an ideal one, and if some of our readers will adopt it for a few years and report, we shall be delighted to publish their experiences.

"FORCED" EDUCATION.

The damage to the nervous organization of the child, and the generally disastrous effects of forcing in the school curriculum, have been often remarked, but the evil still continues. The *N. Y. Medical Journal* (September 16) notices with approval an address made before a provincial Canadian medical society last summer, in which this subject was taken up. The special point made was that the course of study should be carefully adapted to the average, or rather, the under-average child, and this both as regards mental and physical development. "Rudimentary education is all that the community should set peremptorily before the mass of children; those who have the capacity for more ad-

vanced education are few in number, and their aspirations may well be met by a few high schools." These are truths, we might better say truisms, but our educational authorities do not always seem to regard them, and their repetition can not well be too emphatic. With all our boasted intelligence, we might as well recognize the fact that mediocrity is the rule and talent and genius are the exceptions. We can not follow the *Journal*, however, if we understand it correctly, in its view that the same evil exists to a flagrant extent in our medical schools. The errors of the medical curricula—and they may be numerous enough in the present transition state of medical education—are not that they are too thorough and advanced. Up to date they have not been advanced enough. Nor do we want a low average in our profession, something above mediocrity should be the aim. The foolishness of "forcing" has not yet revealed itself in American medical education.

AN ENVIABLE PRINCIPALITY.

We are not accustomed to think of an Indian prince, ruling some tributary state in British India, as a man of advanced ideas. In the *Indian Medical Record*, however, we read that the Thakore Sahib of Gondal, the ruler of a principality of some thousand square miles, is a medical graduate of Edinburgh University and the author of a medical work; that in his dominions sanitary regulations are thoroughly carried out, vaccination enforced, hospitals and dispensaries maintained, and an efficient health organization that enforces local sanitation and reports reliable statistics exists. Inquests are made over every accidental, violent or suspicious case of death, food and water infection, etc., in short, everything apparently that we expect to find in all these particulars in a highly civilized Caucasian community. The only Oriental feature in the report is the order to remove a village bodily from an unhealthy locality to a better one, which was carried out and "hailed with delight by the villagers concerned," who received "every facility, pecuniary or otherwise," in the removal. Notwithstanding the fact that the principality appears to be within the plague-stricken section of India, it has escaped the pest, owing to the extreme precautions taken. It has an increasing birth-rate, with a decreasing death-rate to top off its sanitary prosperity. Agriculture is aided by the government, which maintains public gardens and an experimental farm, and there is an "agricultural association" under its direct patronage. The exports are increasing and the imports decreasing, while the gross public revenue exceeds expenditures nearly 50 per cent. If all the minor states in British India were like the one here described, that section of the world would be a most enviable one in many, if not all, respects.

VENEREAL DISEASE AND THE BRUSSELS CONFERENCE.

The discussion of regulation of venereal diseases at the Brussels conference of social hygiene, September 4 and 5, was notable for the number of participants and the very widely differing views expressed. As the report in the *British Medical Journal* states it, no decision of any kind was arrived at in the two days' discussions, it having revealed the greatest differences of opinion and the utter absence of any trustworthy data for the formation of sound conclusions. Statistics were handled freely on both sides; there was no lack of authority in favor of either of the combated views. The zeal of the speakers is evidenced by the fact that calls to order by the president appeared to be frequent. It is perhaps to be regretted that the expression of opinions was not confined to medical men, as the participation of lay advocates of abolition of supervision detracted somewhat from the purely scientific character of the discussion. The differences of opinion, however, among high medical authorities, were great enough to demonstrate that the question is still an unsettled one, and to leave it open for further study. The main point seemed to be confined to the spread of syphilis, and it was admitted that some statistics showed that regulations had not affected the frequency of chancroid and gonorrhea. Since, according to modern medical theories, gonorrhea is hardly, if at all, behind syphilis as a danger to public health, this is a serious fact—if it is a fact. Regulation that only suppresses syphilis does only half or less than half its work. Considering all things, any system that supervises only one sex is inefficient; an infected man is as much a source of danger as an infected woman and, as an active rather than a passive agent, even a greater peril to public health. We are not much surprised, therefore, at the character and outcome of the discussion. We shall await the publication of the final conclusions of the conference with some interest.

DR. OGSTON'S CRITICISMS.

The English people, while comparatively pachydermatous as regards criticism from without, do not take kindly to public acknowledgements of their faults from home sources, even in a modified and comparatively harmless way. Dr. Ogston's recent address on the faults of the British army and navy medical services has therefore stirred up something of a wasp's nest sort of turmoil. Army and navy surgeons are inclined to resent some of his criticisms, and medical men in civil life have found some features of his address inacceptable. We wonder what the British public would have to say to such rampant criticism of all kinds as everything in our late unpleasantness with Spain received from responsible and irresponsible writers last year. It would be a new experience to them, but we can dismiss it from our imaginations as an impossibility in any country but our own. The saving fact is that we know how to take it, though we are altogether too negligent as to the reputation it gives us abroad. Apropos to the above, a recent letter to the *London Times* has again stirred up our British confrères on the subject of secret commissions. Public charges have been made, not too well supported, it is true, but such as are likely to impress the lay mind, and the profession therefore naturally resents them. There are mercenary individuals in every profession, and some of these are beyond doubt to be found among British physicians, but they are there, as here, the exceptions and not the rule. Wholesale accusations fall of their own weight; they are incapable of proof and their effect is only temporary. It does not seem to us that the charges of Sir Edward Fry need cause

our British professional brethren any serious anxiety, but should only quicken their ethical instincts to avoid even the most innocent contaminations with the prevalent commercialism of the day. We in this country have abundant evidence of this necessity.

RHEUMATIC FEVER WITHOUT ARTHRITIS.

The symptoms of disease may be looked on as an expression of the reaction between the causative irritants and the invaded body. In most cases the irritants are micro-organisms, which sometimes cause local lesions at the site of entrance into the body, and almost invariably give rise to the generation of poisons, to the activity of which often the most pronounced phenomena of the disease are due. Febrile multiple arthritis may result from numerous causes, and it is possible that what is clinically designated acute rheumatism may have a like diversity of origin. Such evidence as exists indicates that acute rheumatism is an infectious disease, but, although a number of micro-organisms have been found in the articular and complicating lesions, there is as yet no agreement as to a specific etiologic factor. While the arthritis is generally considered the most characteristic manifestation of acute rheumatism, it can be conceived that the disease may exist without articular manifestations. These must be viewed as dependent on the activity of the causative micro-organisms or their toxins, and it requires no stretch of the imagination to believe that for some unexplained reason the joints may resist the invasion of the irritants, although pain, fever, and sweats may be present. Of the possibility of such an occurrence, evidence is afforded by a case reported by Hawthorne[1]: A woman, 18 years old, had for several days been complaining of headache and aching in the back, with thirst and want of appetite. Her throat was sore and the temperature was 103.6 F., and the fauces were congested. The knees and shins were tender on pressure, and the skin was moist. The febrile temperature continued for a week, when it became subnormal. Two weeks later the patient complained of acute pain in the right knee, and the joint soon became distended with fluid. This condition improved under rest, and the patient was shortly dismissed quite well. It is known that acute rheumatism may attack a single joint, and it has also been pointed out that the tonsils probably constitute a common portal of entry for the hypothetic micro-organism of the disease, so that, in the case reported, there is no sufficient reason for excluding the diagnosis of acute rheumatism, although the attack proper was unattended with articular symptoms.

[1] Practitioner, September, 1899, p. 278.

Medical News.

FIRE destroyed St. Vincent's Hospital, Norfolk, Va., recently, and five patients lost their lives.

THE ONTARIO Medical Council building, Toronto, is for sale; the price being asked is $100,000.

OUR RUSSIAN exchanges announce that the small epidemic of supposed plague in the Astrachan district has died out.

DR. GEORGE W. GROVE, Kansas City, Mo., has gone, and Dr. J. H. Austin, of the same city, will now go, to New Mexico.

AMONG the charitable bequests of the late E. Ray Thompson, Troy, N. Y., is a gift of $5,000 to the Child's Hospital at Albany.

GRACE CHURCH, Winnipeg, at the sacramental service on the evening of September 17, adopted the system of individual communion cups.

DR. G. FRANK LYDSTON, Chicago, was recently operated on in New York City, for appendicitis. He has gone to Florida to recuperate.

BY THE will of William J. Pinkerton, who recently died in Mt. Joy, Pa., $1000 has been left the Presbyterian Hospital of Philadelphia.

DR. PEARCE KINTZING, B. Sc., has been elected professor of anatomy and clinical surgery at the Woman's Medical College, Baltimore, Md.

DR. J. CLARENCE WEBSTER has returned from abroad, to enter on the duties of his recent appointment to the chair of obstetrics and gynecology in Rush Medical College, Chicago.

THE LAYING of the corner-stone of the Lucien Moss Home for Incurables, Philadelphia, took place September 22. Many prominent physicians took part in the opening exercises.

W. W. FORD, B.A., Adelbert College, M.D., Johns Hopkins, is associated with Dr. McCrae as being one of the first holders of the newly founded research fellowships in pathology, of McGill University, Montreal.

A COMMITTEE has been appointed by the Philadelphia County Medical Society, to confer with the mayor of Philadelphia, relative to the growing practice of blockading the public streets to physicians on their round of duty, by parades, etc.

IN A RECENT ruling made by Judge Buffington of Philadelphia, in the case of Howard Butler and Joseph Wilkins for alleged violations of the oleomargarin laws, the decision is in favor of the Federal Government, and a penalty has been assessed.

DR. WILLIAM A. DAVIS, Baltimore, Md., has been appointed assistant instructor in histology and biology at the Baltimore Medical College. Dr. Davis has been assistant demonstrator of anatomy there for several seasons, being also engaged in practice.

DR. PROCTOR, Kamloops, B. C., is stirring up that town to a better and more efficient sewerage system. A system of cesspools is being constructed there, and he advocates some system of inspection as to where these are to be placed and how they are to be built.

THE AMSTERDAM Congress appointed an international committee on obstetric nomenclature, including Treub, Bar, La Torre, Rapin, Queirel, De Rein, Davis, Edwards, Simpson and Freund. Bar is to report to the obstetric section at the International Congress of 1900.

A NEW departure has been made in the Baltimore Medical College, in the adoption of physical instruction and athletics. Dietrich Stolte, formerly of the Bangor (Me.) Training School, has been elected physical instructor, and a gymnasium will be secured, and football and other teams organized.

ACCORDING to the *Argonaut*, a wealthy Russian named Astrokoff, who recently died, left (1,000,000 roubles) $500,000 toward the foundation of a university for women in Moscow, to comprise a mathematic, scientific, and medical faculty. The Municipal Council of Moscow

has voted an annual grant of (3000 roubles) $1500 to the institution.

COUNT K. BRANICKI, Warsaw, has donated an estate and over two hundred thousand roubles in money to found an establishment for the shelter of incurable and cancer patients, with a further endowment of twelve thousand roubles a year, according to *St. Petersburg Med. Woch.*, September 9.

IT WILL be a year October 23 since young Dr. Mueller lost his life in the "laboratory plague epidemic in Vienna." An imposing memorial to him will be unveiled on that date, in the grounds of the General Hospital opposite Nothnagel's clinic, the expenses defrayed by subscriptions from the profession.

AT THE fiftieth anniversary of the Woman's Medical College, Philadelphia, to be held next spring, an interesting feature will be the presentation of a portrait of the late Dr. Ann Preston, who was a member of the first graduating class, and subsequently of the college faculty, and the first woman to hold the office of Dean.

A RECENTLY graduated French M.D. is the Reverend Dr. Migot, pastor of a large protestant parish in the Faubourg Saint-Antoine, Paris. He replied to the question whether he were going to give up the cure of souls for the cure of the body, that there is no antagonism between them, and that he intends to practice both.

ST. JOHN, N. B., has received word from the Minister of Marine and Fisheries, that the marine hospital of that city will be handed over to the civic authorities, immediately, for the purpose of a home for incurables. In connection with this, Mr. Ellis, M. P., and Dr. Walker, have been sent to Toronto to investigate the working of a similar institution in that city.

THE FOLLOWING changes in the faculty of the Maryland Medical College, Baltimore, are announced: Richard L. McNear, associate professor of histology, pathology and bacteriology; S. Griffith Davis, associate professor of anatomy and clinical surgery; J. T. Burkhaltor, associate demonstrator of anatomy; Alex. McKee, demonstrator of histology and pathology.

EVER SINCE the microbe of bubonic plague was discovered, the Paris Institut Pasteur has been studying and producing the antiplague serum in readiness for an emergency, and Metchnikoff informally states that sufficient is on hand to supply the needs of Europe for the moment, without encroaching on the reserve for home use. Its efficacy is well established.

AT A meeting of the New York State Board of Health, held in New York City, September 22, resolutions were adopted approving of the establishment of special hospitals for tuberculosis, in connection with large cities, and urging the state legislature to enact the necessary legal measures for the organization and maintenance of such institutions under municipal control.

THE NEW Institut de Biologie, at Paris, will be in operation by the end of the year, another memorial to Baroness Hirsch, who presented nearly a half million for the purpose, says *Gaz. Med. de Paris*. It is built in the same style as the adjoining Institut Pasteur, but is much more extensive, reaching from the rue Dutot to the rue de Vaugirard, and containing a large ampitheater and a series of vast laboratories.

PHILADELPHIA begins to take hope in its conquest of bribed aldermen, ignominious politics, and foul water, with which it has been afflicted for so many years. After long months of waiting, the mayor has been furnished with the report of the experts, recommending that sand filtration be instituted. It is hoped Councils will recommend the passage of an ordinance providing for a loan of $12,000,000 necessary for sand filtration.

THE COLLEGE OF PHYSICIANS AND SURGEONS, Baltimore, will reopen October 2, with the extensive improvements costing $100,000 nearly completed. The old college building has given place to a modern one, and there will be a house-warming at the opening of the course. The two new members of the faculty are Dr. Wm. F. Lockwood, chair of therapeutics, and Dr. I. R. Trimble, anatomy.

FOR SOME time past rabies has been very prevalent in Erie County, N. Y., and on September 19 the State Commissioner of Agriculture placed the entire county under quarantine. In the notice promulgated, he warns all persons to seclude, for a period of sixty days, in or on the premises where they are kept, all dogs and other domestic animals which are susceptible to the disease, and which may in any way have been exposed to it.

JOHN MCCRAE, B.A., M.B., late fellow in biology at Toronto University, and sometime resident physician on the staff of the general hospital of the same city, has been appointed to the research and teaching fellowship in pathology at McGill University, Montreal. He was graduated in 1896 as gold medallist from Toronto University, and immediately became resident physician at the Garrett Hospital for Sick Children, Mount Airy, Md.

ACCORDING to the *Medical News*, September 23, there is a likelihood of a breaking down of the quinin trust organized by German manufacturers. This trust had its culmination through a movement said to have been started recently by leading cinchona planters of Java for the purpose of keeping the raw material out of the hands of the syndicate of manufacturers. There seems moreover to be no good reason why the United States should not get both the cinchona bark and the sulphate of quinin direct from Java, and thus avoid the trust.

IT IS stated that two druggists of York, Pa., recently entered into a lively competition regarding the sale of morphin, and one of them offered the drug as low as 15 grains for 10 cents. As a result of the increased consumption, at the low price, many young men have become addicted to the habit. The local press states that there are 100 habitués. A crusade has been made against the sale of the drug, owing to the death of one of the prominent young men of the town, which followed a hypodermic injection administered by a friend.

THE PROSPECT of San Francisco at last getting a new City and County Hospital seems good. The Board of Supervisors has signified its willingness to grant an initial appropriation of $50,000, and the Board of Health is considering the question of plans. Judge Hunt, of the superior court, has decided that under the existing statutes the Board of Health may appoint as many assistants as in its judgment are necessary, and that the auditor will have to audit the bills. Consequently we may expect to see the merry quarantine war once more on the carpet, on the first good opportunity.

ACCORDING to the *Gazzetta degli Ospedale* (Milan, September 12), a number of cases of the plague have occurred in France, at Marseilles, Havre, Bordeaux and even at Paris, and refugees constantly arriving from Egypt and India are a constant menace, especially traveling variety shows, etc., which, finding no audiences in the infected regions, are all flocking to Paris. It concludes: "The efforts to keep the secret have been enormous and

have been crowned with success to date, the French Government proclaiming that the public health is excellent, but the army maneuvers in the West have been suspended and tourists are rapidly leaving Paris."

THE ONE HUNDRED AND FORTY-EIGHTH annual report of the Board of Managers of the Pennsylvania Hospital, Philadelphia, issued during the week just passed, reviews the part taken by this institution in the relief of soldiers treated during the late war, the total number treated being 326. To meet the increased attendance required in the additional wards, all of the medical staff offered their services. The number of resident physicians, only four four years ago, has now been increased to eight. Since the foundation, in 1751, there have been 143,788 patients admitted to the wards, of whom 99,887 were supported at the expense of the Hospital. Since the reorganization of the out-patient department, in 1872, 187,412 out-patients have been treated, making 713,874 visits.

THE LIBRARY of the medical department of the University of California is now properly housed, properly cared for, and is being rapidly catalogued and extensively indexed. It already contains some 2000 bound volumes, including complete files of many journals, such as *Virchow's Archiv*, *Schmidt's Jahrbuch*, the *Lancet*, etc., and a large and valuable collection of pamphlets, over 6000 in number. The librarian, Dr. Philip Mills Jones, respectfully requests that books, pamphlets, journals, etc., may be sent to the library; proper recognition will be made at once and the material will be well looked after. If necessary, and where no provision is made for transportation, parcels may be sent collect. Address the library of the medical department, University of California, San Francisco.

AGNEWS INSANE ASYLUM, California, is having a sort of two-ring circus. Dr. Sponogle, who was dismissed from the position of superintendent, as previously noted in the JOURNAL, now refuses to give up the command to his regularly, or as he claims, "irregularly appointed" successor. There are, therefore, now "two superintendents" at the asylum, both giving orders, both signing papers, and both, quite amicably, carrying on the business of the institution. The courts are being kept busy with the legal difficulties of the superintendent, or the ex-superintendent, and the Board of Trustees; an injunction was issued, has been argued and dismissed, but Dr. Sponogle still refuses to be dispossessed and will not give up the keys. As soon as the present crisis no longer demands his attention, he says, he intends to file the $100,000 damage suit against the governor.

CALMETTE and Salimbeni, officially delegated by the Paris authorities to study the plague at Oporto, confirm Jorge's diagnosis and the extreme virulence of the germs. They were inoculated with preventive injections of anti-plague serum before starting, and report that the three cases they have treated with the serum are all convalescing. In a communication to the Paris lay press (*Figaro*, September 11), they state that the epidemic may last months, or even years, at Oporto, without increasing in intensity. They claim that the plague should be regarded as an infectious disease propagated by certain conditions of poverty and filth, the same as typhoid fever by contaminated water. There have been sixty-four cases in Oporto, all among the working classes, with twenty-six deaths, to September 9. The unsanitary conditions, lack of sewers, etc., invite almost any disease. All the members of the profession, local and foreign, denounce the sanitary cordon around the city as ineffectual and ill-advised, a barbarous measure resulting only in increasing the financial distress and famine in the city and thus fanning the flame of infection.

Correspondence.

The Government Hospital for the Insane.

BRIDGEWATER, MASS., Sept. 19, 1899.

To the Editor:—In the JOURNAL of September 2, an unsigned letter was published, under the above heading, which, for fairness' sake, I wish to review. The ostensible object of the letter was to express condemnation of a "vicious" system of appointment, which, according to the writer, secures incompetent men as chief executives of insane asylums.

If the writer's premises were correct, if it were a fact, that "few of them (superintendents) before appointment, have had either practical or theoretic experiences in the treatment of mental or nervous disease," he would deserve the thanks of the profession generally, and particularly of those assistant physicians who are doing painstaking medical work in the hospitals for the insane, for his so-called "arraignment" of their chiefs. But because his premises are only true in exceptional cases, his conclusions are invalid.

A brief letter is sufficient to formulate a long list of aspersive propositions reflecting on other physicians, if no attempt to produce proof is made. If it is counted ethical and honorable, among specialists, to publish unsigned letters extolling their own class and depreciating others, it may harmonize with the same sense of "judicial fairness" to leave the burden of proof on the "arraigned."

It is fair to assume that every physician giving his energy and his best days to the care of the insane has a natural regard for the respect and good-will of his brother physicians. It ought to be remembered that the young man who begins his professional life as a junior assistant in a hospital for the insane is as well qualified as he who enters on any other line of medical work. In New York, and some other states, he has been the successful candidate in a rigid competitive examination. In other states he is chosen from the best available material, and is promoted according to experience and competency, as vacancies occur. His duties are more nearly akin to that of the general practitioner than to that of any specialist, because of the fact that the symptom-complex we call insanity is as often dependent on, or aggravated by, disease of the digestive, respiratory or reproductive system, that to treat mental alienation successfully, means to intelligently treat all the diseases to which human flesh is heir.

The asylum physician, as a rule, is well acquainted with such standard authors as Gowers, Dana, Starr, Spitka and Clouston, and is seen fairly well posted in general medicine. He depends for his reputation, limited as it may be, on devoting himself to the many unfortunates who look to him for daily cheer, as well as relief from bodily ills.

Experience has proved that the natural rule has been most successful, that the best superintendents have been those who have served from junior assistant physicians to assistant superintendents. Departures from this common rule are becoming less frequent. When your correspondent asserts that "no one ever connected with an insane asylum has made any important discovery regarding the brain and nervous system, he echoes the personal opinions of a prominent neurologist, from whose public address, a few years ago, he presumably gets his cue. As "important discovery" is a relative phrase, the ungracious allegation can not be met in positive terms.

When he seeks to make the general profession believe, by insinuation, that the representative superintendent is capable of telling the court, that "there is no such thing as nocturnal epilepsy; that quinia has no effect on the brain; that heredity is not a factor in insanity, etc.," we wonder what considerations could induce an honorable physician to adopt such methods. If he ever knew a superintendent to so testify, would not every impulse of fairness and honor suggest that it be pointed out as an anomaly, rather than representative of the medical knowledge of the asylum physician?

Does he not know that nearly every insane hospital report emphasizes the importance of heredity as a factor in insanity,

and that "hysterical insanity" will be found in the classified list of forms of mental alienation in almost every case?

The truth is, psychiatry, as an art must include the science of economics, as well as the science of neuropathology. It has advanced by a process of evolution, rather than by startling discoveries. It is no dishonor to psychiatry that it must utilize, to the best advantage, the fruits of the field, water, fresh air and sunlight, nor does it reflect to the disadvantage of the asylum superintendent that, after serving several years as assistant physician, he delegates the bedside attendance, the prescribing of drugs, the examination of urine, blood and sputum to the younger men; to assume the duties of executive director and consultant.

To maintain a healthy discipline, to wisely select department heads, to protect the tax-payers from wasteful extravagance; to encourage the scientific efforts of the younger medical men; to follow the varying mental condition of the acute cases admitted, and to defend the interests of the insane against ward politicians, are not all purely medical functions, it is true, yet hygiene and preventive medicine are such important elements of the whole, that one is not the less a physician if he performs these manifold duties well. C. A. DREW, M.D.

"A Possible Check to Quackery."

WASHINGTON, D.C., Sept. 19, 1899.

To the Editor:—I have the honor to acknowledge the receipt of your letter of the 31st ult., inclosing a newspaper slip relative to the liability to the internal revenue stamp tax of remedies furnished to patients, by physicians and companies who advertise in the public prints their ability to cure the various diseases incident to the human body, and requesting to be fully informed as to the rulings of this office on the subject.

In reply I inclose you a copy of Circular 501 Revised, dated Jan. 24, 1899, containing the regulations of this office as to the liability of medicinal preparations to the stamp tax under Schedule B, Act of June 13, 1898. On page 5 of said regulations will be found a ruling that the tax is also imposed on the following:

All mixtures or prescriptions by whomsoever sold, the demand for which is created by circulars, circular letters, or public advertisements, and which by reason of such solicitation pass through the mails or express office to the consumer. This includes preparations made by physicians or other persons who seek patronage by post-office or by printed circulars or advertisement, or who solicit the afflicted by means of classified lists of afflicted persons.

This office having been reliably informed that the method indicated above, of soliciting the patronage of the sick and afflicted, was being extensively employed throughout the country by physicians who failed to stamp the remedies furnished, the attention of collectors and revenue agents was recently called to the matter with a view to a more thorough enforcement of the law.

The only difficulty in enforcing the law in this respect has arisen from the difference in the manner employed by the advertising physicians in collecting the amount charged for medicines.

In the first place, it must be stated that this office does not assume to tax in any manner the sum received for professional services by any physician.

Among the physicians advertising as above indicated, there appear to be three methods of making charges, as follows: 1. A specific charge is made for services and a specific charge is made for the medicines. The case presents no difficulties, as the medicines must be stamped according to the amount charged for them—unless manifestly and intentionally inadequate—and no account made of the services. 2. Where nothing is charged for the services, and the only charge is made for the medicines. In this case the medicines are to be stamped according to the price fixed by the physicians. 3. Where the advertising physicians profess to furnish medicines free to patients and only charge for advice. In such a case this office rules that payment for the value of the medicines is included in the sum charged for advice. The amount charged for the medicines can be segregated from the amount charged for advice by the physician making the charges, if he so desires, but if in any case the advertising physician refuses to separate the charges, the whole amount charged will be estimated as the price of the medicines, and the tax will be computed accordingly, under the authority conferred on the Commissioner of Internal Revenue by the provisions of Sec. 3437, Revised Statutes of the United States.

In conclusion I will state that where an advertising physician professes only to give advice in regard to the treatment of diseases and furnishes no medicines or remedies, either directly or indirectly, no tax accrues under the Internal Revenue Laws. Respectfully, G. W. WILSON, Commissioner.

See JOURNAL, September 16, p. 738.

Gall-Stones.

NEW YORK CITY, Sept. 15, 1899.

To the Editor:—The enclosed tabular statement of my operations on the common-bile duct has been omitted from my article on "Gall-stones," published in the JOURNAL of September 16.

CHOLEDOCHOTOMIES.

	Age.	Date.	Gall-Bladder.	Calculi.	Duct Sutured.	Leakage.	Result.
1. Mrs. J. M.	42	Mch. 19, 1895.	Thickened, moderate. Size	1 large and 2 small.	Yes.	None.	Recovery.
2. Mrs. B. B.	37	May 1, 1895.	Thickened and shrunken.	1 large.	Yes.	Yes.	Died fourth day. Pneumonia and cholemia.
3. Mrs. E. H. S.	37	Oct. 27, 1896.	Distended.	1 large.	Yes.	None.	Recovery.
4. Mrs. T. L.	41	Mch. 18, 1897	Distended.	1 large.	Yes.	For 18 days.	Recovery. At time of operation patient was 5 months pregnant. She did not abort.
5. Mrs. R. H.	50	May 26, 1897.	Thickened and shrunken.	2 large.	Yes.	Slight for 31 days.	Recovery.
6. Mrs. E. D.	60	Jan. 18, 1898.	Thickened and shrunken.	3 large,	Yes.	Slight for 15 days.	Recovery.
7. Mr. P. D.	60	Jan. 18, 1898.	Thickened and shrunken.	2 large.	Yes.	. . . . .	Died on second day. Pneumonia and nephritis.
8. Mrs. E. J.	52	May 19, 1898.	Thickened, moderate. Size	1 very large.	Yes.	For 32 days.	Recovery.
9. Mrs. N.	59	Aug. 10, 1898.	Thickened and shrunken.	3 large.	Yes.	For 15 days.	Recovery.

This omission occurred because of failure to correct the proof, owing to my absence. Will you kindly publish the table and oblige, Yours, very truly, A. J. MCCOSH, M.D.

Canada.

(From Our Regular Correspondent.)

TORONTO, Sept. 23, 1899.

ONTARIO'S HEALTH IS BAD.

The Provincial Health Board has just issued its regular monthly bulletin, which shows that there were in the Province no less than 2069 deaths recorded in the month of August, the returns being derived from over 75 per cent. of the total population. This shows an increase of 426 over the preceding month of July. Deaths from typhoid fever and whooping-cough are more than for any month during the last four years. In Aug-

ust, 54 persons died from typhoid fever, while in 1896, for the same month, the deaths were 46; in 1897, 22; in 1898, 34. Fifteen deaths are reported from whooping-cough, 3 more than for the corresponding month of last year. The total number from contagious diseases is 269, 59 more than in July; of these, 171 were due to tuberculosis. The drouth of last month has had a direct effect in the production of the typhoid cases, the wells having become dried up, and the drinking water as a consequence rendered impure. The recent rains have exercised beneficial effects noticeable in a reduction of the disease.

JUBILEE HOSPITAL, VICTORIA, B. C.

The Board of Directors of this institution met on the 14th inst. On January 14, last, a committee was appointed to devise ways and means for the erection and maintenance of a children's ward, a maternity ward, a residence for the medical officer, increased accommodation for the nurses, the completion of a sewerage system, the draining and beautifying of the hospital grounds and the promoting of such other necessary adjuncts, with the adoption of modern appliances, as would place this institution in the van of similar hospitals. This committee reported at length at the aforesaid meeting; and the report was handed over to the printing committee, to be combined with the annual report of the Board. It further suggested that the government grant should be doubled, and this was strongly supported by many of the members of the Board, as they considered that the hospital was more provincial in its character and work than a mere local civic institution. The medical health officer, Dr. Hasell, reported that the daily average of patients was 42.35, the total days' stay was 1373, and the average cost $1.28. His Excellency, G. Digby Barker, C. B., commander-in-chief and governor of the Bermudas, wrote thanking the authorities for the excellent treatment Mrs. Barker had received there; and enclosed his check for $100, to be applied to the women's auxiliary fund.

MORTALITY FROM INFANTILE DIARRHEA.

Winnipeg is congratulating herself on the fact that the mortality this past summer has not been so great as in previous years. Last winter the question of a pure milk-supply was agitated, with the result that the Copenhagen system was adopted to a considerable extent, and the resulting decrease in infant mortality has proven the wisdom of the agitation. The city further calls on the authorities to enforce the by-laws with regard to milk inspection, etc.

As regards Toronto, in 1897, for example, 31.23 per cent. of all deaths were under 1 year, and 5.15 per cent. of all occurred from diarrheas, under 1 year. The total number of deaths from diarrhea under 1 year was 161, out of 977 deaths all told, i. e., 16.48 per cent. These figures compare very favorably with those of the large American cities. A perusal of a table of figures prepared by the registrar-general's department shows that July, August and September are notoriously bad months, mostly for those in the first year of their existence. From 1894 to 1898, inclusive, the total number of deaths in these three months was as follows: July, 278; August, 273; September, 156. The totals in the other months were as follows: January, 1; February, 8; March, 4; April, 8; May, 11; June, 45; October, 61; November, 13; December, 15. Inspection of the table as regards age is equally interesting: First year, in 1897, 173; in 1897, 161; in 1896, 150; in 1895, 178; in 1894, 136; second year, in 1898, 9; in 1897, 10; in 1896, 0; in 1895, 0; in 1894, 0; third year, in 1898, 1; in 1897, 1; in 1896, 9; in 1895, 18; in 1894, 26.

As regards the whole province of Ontario, the total number of deaths from all causes—still keeping to the same year, 1897—was 25,307; and of these, 1082 were due to cholera infantum and infant diarrhea, i. e., 1 in every 25 deaths in Ontario was due to this disease. Commencing with January, consecutively, these are the numbers: 13, 18, 14, 13, 12, 52, 166, 338, 293, 103, 25, 18. By ages: first year, 925; second year, 121; third year, 11; fourth year, 25. Since 1897, the Health Department of Ontario has had the Bertillon system in use, and it has proved eminently satisfactory.

THE MEDICAL ALLIANCE OF AMERICA.

This "association," "institution" or "concern" has been and is at the present time exploiting the profession and the general public in Montreal, soliciting on all sides for the people to enroll themselves in its membership. It claims to be "a conclave of physicians and surgeons organized for the purpose of supplying medical attendance and medicines in sickness or accidents for a small weekly investment." Certain inducements are held out to the physician if he will only become a member of the society: 1. The physician shall receive at least one dollar for every visit paid to every member of the alliance. 2. He will still have the privilege of attending his own private patients—provided they, too, are willing to become members of the society—the members being allowed to select any doctor connected with the society, to attend them. 3. As there are many persons joining, who have no regular physician, these individuals will become patients of the various doctors connected with the alliance. 4. The principle on which the physician is paid for his services is completely the opposite to the ordinary benefit society and free from the objections arising from that system. Now, what do these people offer the public to join? "For the small sum of 10 cents, weekly, they will be entitled to call in any of the physicians or surgeons of the alliance at any time for the slightest cause," and the doctor "will supply the necessary medicines free of charge." When ten years have elapsed each member will receive back $52, thus getting medical attendance and medicine all that time for nothing. Here is a paragraph, taken from the agreement between the society and the doctor, who is to become a member: "For and in consideration of such services the first party (the alliance) agrees to compensate the said second party (the doctor) as follows: To place in a fund to be known as the "Medical Expense Fund" the sum of 12 cents, monthy, for each and every member entitled to the above mentioned attendance and medicines as shown by the books of the alliance, and to divide the sum total (monthly) by the total number of visits made and reported by the physicians of the district, which division will show the actual amount due each physician for each call made; but in no case shall any physician receive an amount in excess of two dollars for each house-visit and one dollar for each office call (which amount will include the cost of medicines furnished), and the excess, if any, will be carried over to the succeeding month; and if, on the first day of January of each year there still remains a surplus, the same will be divided equally among all the physicians employed by the alliance *pro rata* to the number of calls reported during the preceding year.'" The following is a paragraph relating to an ordinary member: "In consideration of the prompt payment of 10 cents weekly, John Smith shall be entitled to medical attendance and medicines from any of the physicians of the alliance, in case of sickness or accident of any kind except chronic or venereal diseases or diseases not common to both sexes. And in further consideration of the prompt payment of the amount above mentioned for a period of or exceeding ten years, the said member will upon surrender of this book at the office of the company be entitled to a sum in cash not exceeding the amount stated in the following 'table of values' ($52 at the end of ten years) as his or her proportion of the profits of the alliance." When any member of the profession in Canada is approached by the agents of this alliance, they should be careful to read the following on the reverse side of the contract: "Failure to make payments for thirty days will cause the agreement to be lapsed, void and of no effect." If on joining, the physician gets dissatisfied with the affair, he can terminate his connection at any time under the following ambiguous rule: "This agreement will terminate January 1, ——, or may at any time be terminated by the mutual consent of the parties thereto." It will behoove the profession in Canada to make a careful examination of the whole subject before they allow themselves to be duped into becoming connected with any such undertaking. The *Montreal Medical Journal* for September gives a clear and clever criticism of the whole affair.

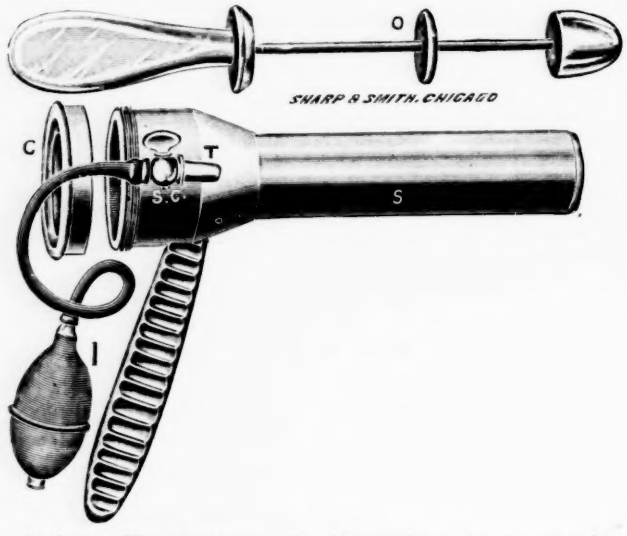
New Instrument.

INFLATING RECTAL SPECULA.

BY J. RAWSON PENNINGTON, M.D.
CHICAGO.

The various rectal specula at my command, together with the advantages of atmospheric pressure not being adequate in many cases to inflate the bowel sufficiently to obtain a

satisfactory inspection, I have devised a set of inflating rectal instruments, and have demonstrated their superiority in investigating the lower intestinal tract. All of the specula in the practical set have a common diameter of 21 mm., except the anoscope, which is conical, being 30 mm. in diameter at the junction of the flange and cylinder. Its cylinder is 5 cm. long, that of the proctocope 12 cm. The distinctive features are the cap (C) and the tube (T) for connecting the insufflator (I).



Technic.—The obturator (O), being placed in the speculum (S), is warmed and well coated with vaselin. When introduced into the bowel, the obturator is withdrawn and the cap (C) thoroughly screwed on the flange. The nozzle of the insufflator (I) is then pushed firmly into the tube (T). By compressing the bulb and, at the same time, with the aid of reflected light, looking through the glass window in the cap, you will notice the bowel becoming distended, when it can be thoroughly inspected and examined. The entire colon may be inflated for diagnostic purposes if desired. A part, only, of the air escapes on removal of the cap, the bowel remaining more or less distended. These instruments were manufactured for me by Sharp & Smith, Chicago.

Deaths and Obituaries.

G. A. HENDRICKS, M.D., professor of anatomy in the University of Minnesota, died of acute Bright's disease, September 24, in Minneapolis. The Doctor went to Minneapolis in 1889, from the University of Michigan, where he had been an assistant in the department of anatomy.

WILLIAM HEMBEL TAGGART, M.D., Reading, Pa., died September 20, aged 70 years. Dr. Taggart was born in Winchester, Va., July 15, 1830, and graduated from the University of Pennsylvania in 1849, when he became resident physician to the Philadelphia Hospital, where he remained one year, subsequently finishing in the hospitals of Paris. In 1857 he was elected to the chair of materia medica and therapeutics in the Philadelphia College of Medicine, and in 1859 was appointed to the same chair in the Pennsylvania Medical College. At the outbreak of the Civil War, Dr. Taggart was appointed surgeon of the Tenth Regiment, Penn. infantry, and later surgeon of the Second Regiment, Penn. cavalry. Ill health compelled his resignation. For ten years he was surgeon of the Philadelphia City Troop, and for many years he was a member of the Philadelphia College of Physicians and of the Academy of Natural Sciences of Philadelphia.

W. H. BALTZELL, M.D., Frederick City, Md., died of heart disease on September 12, at the age of 67 years. The Doctor was a graduate of the University of Pennsylvania, class of 1854, and in 1855 practiced in Chicago, but returned to Maryland on the breaking out of the Civil War.

L. L. Bennett, M.D., Harpersfield, Ohio, died September 17....George M. Butler, M.D., Wellsburg, Va., September 12, aged 77 years....E. P. Carter, M.D., Orangeville, Ind., September 17....Rudolph Hanser, M.D., Woodstock, Ill., September 15....C. K. Harris, M.D., Iager, W. Va., September 19....E. P. Henderson, M.D., Zanesville, Ohio, September 12, aged 42 years....H. C. Hubbard, M.D., Bloomington, Ill., September 24, aged 53 years....John M. McNulty, M.D., Fort Dodge, Iowa, September 14, aged 75 years....Henry Norton Porter, M.D., Washington, D. C., September 12....Edward L. Reeves, M.D., Paulsboro, N. J., September 21, aged 68 years.... J. C. Robertson, M.D., Council Bluffs, Iowa, September 12, aged 54 years....George Woodward, M.D., Springfield, Ill., September 18, aged 25 years.

DEATHS ABROAD.

K. B. BRUHL, Graz, died recently in his 80th year. He had been professor at Cracow and Vienna, and leaves several important works on comparative anatomy....Professor Binaud of Bordeaux is dead at the age of 39 years.

Miscellany.

Cemetery for Pets.—A cemetery for domestic pets has been established in Paris, on a small island in the Seine. A young man appears at the door, in response to a telephone call, with a suitable casket for the defunct pet and transports it to the cemetery.

Portrait Busts From the Stone Age.—An interesting experiment is reported by Professor Kollmann of Basle, who took a cast of a female skull dating from the stone age, and had a sculptor model the soft parts over it. The bust thus produced scarcely differs from the young women of Switzerland of the present day. Professor Merkel of Göttingen also reports similar experiments with skulls of a later age. The resemblance to modern types is most striking.

Hemorrhage After Operations on Biliary Passages.—Weiss reports a couple of cases of sheet hemorrhage or hematemesis after cholecystostomy, in which no wound nor rupture of a vessel could be found to explain the hemorrhage. From his experience he concludes that the surgeon must examine the urine, etc., to determine the condition of the liver function and not interfere in case it is entirely compromised.—*Semaine Méd.*, September 6.

Temporary Elastic Ligature of Abdominal Aorta.—Faure highly recommends this measure as a means of provisional hemostasis in the course of abdominal operations threatening excessive hemorrhage from extremely vascular tumors, etc., says the *Revue de Gyn.*, August. It is especially simple and effective when the pelvis is elevated. He cites several instances in which death would certainly have occurred on the table if he had not at once sought and applied the temporary ligature on the aorta.

Mercury Bath for Massage of the Hand.—Massage cannot usually be borne in gouty arthritis, although it would prove as useful in this as in all other chronic arthropathies. Professor Rindfleisch of Wurzburg (*Sem. Med.*, September 6) found, by experience with himself, that plunging the hand or part affected in a vessel filled with mercury produced a gentle, even pressure to a certain degree resembling massage, which caused the rapid disappearance of the tumefaction of the joints, especially in chiragra. Moving the hand to and fro augments the massage action of the mercury.

Goethe as an Anatomist.—Galen noted an intermaxillary bone in animals, and also ascribed them to man, but centuries later Camper claimed that the lack of these bones is one of

sential mark of distinction between man and animals, especially the monkey. Goethe revived the discussion and after considerable research compelled the recognition of the site of the incisors as rudimentary intermaxillary bones. He also tried to prove that the skull is but a higher developed vertebra, and urged that the three portions of the temporal bone should be considered distinct.

Benefit of **Rest After Operations on the Eye.**—E. Clarke recently exhibited a set of rabbits' eyes on which operations had been performed, showing that when the animals were kept under the influence of an anesthetic for ten minutes to half an hour afterward, the wound closed and the anterior chamber reformed very rapidly, until it was scarcely possible to distinguish the operated from the sound eye. Animals allowed to recover from the anesthetic and not killed for half to two and three-quarters hours afterward, showed evidences of irritation in the eye, turbid aqueous, etc. His experiments confirm the extreme rapidity with which the aqueous is resected under favorable conditions and the value of rigid rest.—*Clinical Journal*, August 30.

Roentgen **Rays Data Wanted.**—The editors of the *Fortschritte a. d. Geb. der Roentgen-Strahlen* are collecting material for a comprehensive report on the application of the Roentgen rays, and appeal to physicians to assist them in their task, by replying to the following questions: 1. Kind of affection of skin, hair, nails, etc., and of other parts of the body, induced by the rays. 2. General constitution of patient—whether anemic, tuberculous, syphilitic, etc. 3. Severity of affection induced. 4. Termination, whether in recovery, and method of treatment followed. 5. Subjective sensations of patient. 6. Number and length of séances. 7. After how many séances did the first symptoms appear—redness, etc? 8. What measures were taken to protect parts not to be exposed to the rays? 9. Which tubes were most effective, soft (low), or hard (high)? 10. Distance between tube and part to be treated. 11. Was the tube perpendicular to the part treated? 12. Length of sparks. 13. Voltage and ampèrage. 14. Number of interruptions per minute. 15. For what pathologic conditions were the rays employed? 16. Remarks.

"Ten Per Cent." **Doctors.**—One of the latest stories about doctors is worth repeating, even though it is not true: Some college students—not medical of course—of expensive tastes find it necessary to resort to subterfuges that often tax human ingenuity. One of these is the "10 per cent. doctor." This member of the medical fraternity is a played-out practitioner residing in the vicinity of the college, who makes a goodly sum out of students who have "blown in" their allowances long before their next is due. The student whose pocket-book has suddenly become depleted goes to this "medic," and for the consideration of 10 per cent. of the amount gets a receipt for "professional" services. This receipt is sent home and usually a remittance for that amount is received in return. One student last year had two expensive "operations," thus realizing a neat sum.

Formaldehyde in Disinfection.—The Secretary of the Illinois State Board of Health advises us concerning a series of experiments in aerial disinfection by the use of formaldehyde, carried on under the direction of Prof. T. J. Burrill, mostly at the state laboratory, the tests being made on the various lamps and generators producing formaldehyde from methyl alcohol, also on different apparatus regenerating the gas by the heating or boiling of the 40 per cent. aqueous solution. There were also experiments with the method of spraying suspended sheets with the 40 per cent. solution, this having been recommended by various state and other health departments and being in use exclusively by some railroad companies as their means of disinfection. The results showed that all portable generators producing formaldehyde by the oxidation of methyl alcohol were unreliable and in many instances worthless. As to surface disinfection, it was seldom accomplished, and the gas apparently possessed no penetrating power whatever, probably due to the fact that by this manner of generation but a small quantity of the alcohol is converted into formaldehyde. With the machines evolving the gas from the solution, the investigators had better success, but even here the effect on cultures was not constant, the action of the gas seemingly being entirely dependent on atmospheric and other conditions which prevailed. While sometimes complete surface disinfection was frequently not obtained, even in instances where the organisms were themselves the least tenacious of life, as with the generators using methyl alcohol, the penetrating power of the resulting gas was almost nothing.

In experiments where the vapor of formaldehyde was exposed in the room with sprayed sheets hung across it, 40 per cent. solution being used, commercially known as formalin, little better results were secured, although the tests were made in the most painstaking manner, and repeatedly during a period of three months, and were conducted in living rooms, railroad cars, and stores. Practical surface disinfection by the use of 150 c.c. of formaldehyde per 1000 cubic feet, commonly recommended and used, also gave unsatisfactory results, but where the amount of the material was considerably increased in proportion to space, where freely exposed bacteria were concerned, disinfection was possible. It was, however, necessary to use 250 to 300 c.c. per 1000 cubic feet to insure success in these experiments, 250 c.c. being the smallest amount that could be relied on to destroy dry bacteria.

The temperature of the room greatly influenced this method of disinfection, as did the relative humidity of the atmosphere and the character of the room's contents. Satisfactory results were seldom obtained with the thermometer 50 F. or below, with the gas produced by the oxidation of wood alcohol or liberated by the action of heat on the solution.

The Board has concluded that formaldehyde as employed in the tests conducted can not be relied on as an efficient germicide, as the destruction of pathogenic organisms is only accomplished under certain conditions which are not always at hand. Further investigations will be carried on, but in the meantime the Board advises physicians and local health authorities to use and recommend sulphur dioxid, 4 pounds to each 1000 cubic feet of air space, preferably burned in the presence of moisture, the time of exposure being twelve hours, longer if possible. The Board also recommends that the use of this be followed by a thorough washing with a 1-1000 solution of bichlorid, and in all cases by a liberal application of fresh air and sunshine if procurable.

Apropos to this investigation of the Board, the following from the press dispatches of September 25 is of interest, as appearing in the report of the Surgeon-General of the Marine-Hospital Service: "Passed Assistant Surgeon E. K. Sprague desires it to be distinctly understood that he does not recommend formaldehyde as a disinfectant agent on which reliance can always be placed for the treatment of articles requiring much penetration. His conclusions are as follows:

'A review of the experiments will show,' he says, 'that in twelve series in which the quantity of formalin mixture varied from 360 c.c. to 1000 c.c., or, taking the ratio given from one to five, and one to two, mattresses and pillows were sterilized; but in two series in which the proportion of the mixture was as one to five the mattresses and pillows were not penetrated. A critical examination of nearly all the published experiments with this agent also reveals instances in which organisms that there was every reason to expect would be killed have survived, and vice versa. It is that occasional unaccountable uncertainty of action that calls forth the warning not to attempt disinfection with formaldehyde in a case in which there is any doubt as to the results.'"

Queries and Minor Notes.

ARTIFICIAL GUANOS.

VANCOUVER, B. C., Sept. 18, 1899.

To the Editor:—Will you kindly inform me where I can obtain a book containing the method for analyzing artificial guanos, with special regard to fish guanos. I believe there is one generally used by the U. S. Agricultural Society, but of this I am not quite certain. F. T. U.

ANSWER:—The only recent work meeting our correspondent's needs, that occurs to us, is "Wiley's Principles and Practices of Agricultural Analysis," published by the Chemical Publishing Co., Easton, Pa., 1895, the second volume of which is devoted to fertilizers. Dr. Wiley is chemist of the agricultural department at Washington. There are other works on agricultural chemistry, such as Johnston's, Adie's, and Storer's, and others, but how far they contain what he wishes to know we can not say. If references to analyses and reports on the special subject of inquiry are required, we should think that they might be obtained by correspondence with the agricultural departments at Washington, D. C., or Ottawa, Canada. The agricultural department of the JOURNAL has not yet been organized, and the above reference is therefore the best we can supply.

"CLUB PRACTICE" IN EARNEST.

We have just received a letter from a physician in Canton, Ohio, which is as follows: "I enclose you a circular which is self-explanatory, and desire your opinion as to the course to be pursued by reputable physicians toward such an organization. Also, can promoters of such an organization be permitted membership in the AMERICAN MEDICAL ASSOCIATION, or in any medical society?"

The circular is a six page folder, printed in red and black, and calls attention to the great benefits to be derived from joining the "Red Cross Medical Association," which agrees to furnish physicians and medicine to its members, membership being divided into three classes, as follows:

"Class A.—Members of class 'A' will receive a family certificate, which calls for both surgical and medical treatment at the office of any physician on the medical staff, together with visits, when necessary at the house, both day and night in the event of sickness or accident. This includes all members of the immediate family, when not exceeding twelve in number. Cost $1.25 per month."

We are glad to see there is to be some limit, even though that limit be an even dozen.

"Class B.—Members of class 'B' will receive an individual certificate, providing for the same attention for the individual as Class 'A.' One dollar for the first month and fifty cents per month thereafter."

This will be a money-making "class" for the promoters, for $6 a year is big pay for the ordinary individual.

"Class C." is about the same as the others except that hospital fees are paid.

From one of the "Ten Reasons Why" everybody should join this organization, we learn that "this plan has been in successful operation in other cities for years, and in case you visit or remove to such cities you will be taken care of." While the statement that "this plan has been in operation for years" is untrue, there is evidently a general movement on the part of the "promoters" to introduce it everywhere.

To our correspondent's question as "to the course to be pursued by reputable physicians toward such an organization," there can be but one answer: "*Unite together and stamp it out!*" And now is the time to do it. There is no need for us to say why. The experience of the old world is sufficient reason if there were no other. It should be done now while it is beginning, and we should not wait to see how big and how disastrous it will be before a movement is made. And the physicians of Canton owe it to themselves, but above all to the profession, to act unitedly and immediately. It can not succeed without the aid of physicians, and hence those who assist in such a movement will be responsible. We hardly like to believe that sensible men will allow themselves to be tools for the promoters of such a scheme. For no one but the promoters, not even the members, can be benefited by the success of such an organization. We regret to know that the president of this Canton organization is a member of the AMERICAN MEDICAL ASSOCIATION. Surely he can not realize the evil results of the action he is taking. The temporary financial gain for those who go into such an organization, if there is even a temporary gain, will soon be lost, and with it will also be lost the respect of their fellow practitioners. We appeal to the physicians of Canton to unite and put down this worst phase of "club practice" in its incipiency.

COMMERCIALISM

Our exposé in this department last week, of the woman who "cures cancer," and who, by circular letter, is trying to bribe physicians to send her patients, has resulted in an investigation being made as to her right to practice. As we expected, she holds no registerable diploma, and the Illinois State Board of Health has commenced proceedings against her for practicing illegally.

The Public Service.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Sept. 23, 1899:

P. A. Surgeon George R. Barber, detached from the *Monongahela* on arrival at Newport, and ordered to duty at Naval Academy, September 30.

P. A. Surgeon George Rothganger, ordered to duty at the United States naval hospital, New York.

Asst.-Surgeon M. V. Stone, detached from the *Brutus* and ordered to the Asiatic station.

Surgeon L. B. Baldwin placed on the retired list.

Asst.-Surgeon R. S. Blakeman, ordered to the naval hospital, Newport, R. I., on completion of preliminary examination for promotion.

Asst.-Surgeon J. J. Snyder, detached from the naval hospital, Newport, R. I., and ordered home to be ready for further orders.

Surgeon P. A. Lovering, detached from the recruiting rendezvous, Buffalo, N. Y., and ordered to proceed home as directed in orders of 12th.

Surgeon E. H. Marsteller, detached from the recruiting rendezvous, Buffalo, N. Y., and ordered to duty on the *Richmond*.

Surgeon G. P. Lumsden, detached from the *Richmond* and ordered to the recruiting rendezvous, Buffalo, N. Y.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine-Hospital Service, for the seven days ended Sept. 21, 1899.

Surgeon C. E. Banks, granted leave of absence for one day.

Surgeon C. T. Peckham, to proceed to Eagle Pass and Laredo, Texas, as inspector.

Surgeon W. P. McIntosh, to proceed immediately to Meridian, Miss., and report by wire to Surgeon H. R. Carter at New Orleans, for special temporary duty.

P. A. Surgeon Wertenbaker, leave of absence extended sixteen days on account of sickness.

Asst.-Surgeon L. D. Fricks, directed to assume temporary charge of the service at Key West, Fla., relieving Asst.-Surgeon McAdam.

Asst.-Surgeon W. R. McAdam, relieved temporarily from the hospital at Key West and detailed for special duty in connection with the yellow fever epidemic at Key West.

Acting Asst.-Surgeon E. B. Hallett, granted leave of absence for one day.

Hospital Steward H. E. Davis, upon the arrival of Steward Warhanik, to rejoin station at Boston, Mass.

Hospital Steward C. T. Warhanik, relieved from duty at Chicago, Ill., and directed to proceed immediately to Baltimore, Md., for temporary duty and assignment to quarters.

APPOINTMENT.

W. J. W. Woolgar of Ohio, to be acting assistant-surgeon for duty at Cleveland, Ohio.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Sept. 23, 1899:

SMALLPOX—UNITED STATES.

Massachusetts: Fall River, September 2 to 9, 1 case.
Michigan: Battle Creek, September 8 to 16, present; Maple Grove, September 8 to 16, present.
Ohio: Cincinnati, September 2 to 9, 5 cases.
Pennsylvania: Allegheny, August 19 to September 2, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, August 19 to 26, 3 cases.
Brazil: Rio de Janeiro, July 1 to 28, 54 cases, 34 deaths.
Cuba: Manzanillo, September 5, several cases.
Egypt: Cairo, August 11 to 19, 4 cases.
Greece: Athens, August 22 to September 2, 14 cases, 3 deaths.
India: Bombay, August 8 to 15, 11 cases.
Mexico: Chihuahua, August 28 to September 9, 11 deaths; Mexico, August 13 to 27, 9 cases, 6 deaths.
Russia: Moscow, August 12 to 26, 4 cases, 1 death; Odessa, August 19 to 26, 1 case, 1 death; St. Petersburg, August 19 to September 2, 11 cases, 4 deaths; Warsaw, August 12 to 26, 3 deaths.
Straits Settlements: Singapore, July 29 to August 5, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, September 14 to 19, 164 cases, 7 deaths.
Louisiana: New Orleans, September 2 to 19, 18 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, August 20 to September 3, 10 cases, 8 deaths.
Colombia: Barranquilla, August 12 to 26, 1 case, 1 death; Colon, August 26 to September 3, 1 case, 1 death; Panama, September 5 to 12, 8 cases, 3 deaths; Port Limon, August 29, 1 case.
Cuba: Havana, September 3 to 10, 24 cases, 3 deaths; Nuevitas, September 2, 1 case; Santiago, August 29 to September 5, 3 cases.
Mexico: Tampico, September 8 to 16, 2 cases, 1 death; Tuxpan, August 29 to September 4, 2 deaths; Vera Cruz, September 1 to 14, 21 deaths.

CHOLERA.

India: Bombay, August 8 to 15, 1 death; Calcutta, July 30 to August 5, 27 deaths.

PLAGUE.

China: Hongkong, July 29 to August 5, 29 cases, 29 deaths.
Egypt: Alexandria, August 13 to 27, 5 cases, 3 deaths.
India: Bombay, August 8 to 15, 71 deaths; Calcutta, July 30 to August 5, 52 deaths.

CHANGE OF ADDRESS.

Adams, S. S., from West Springfield, N. H., to 1 Dupont Circle, Washington, D. C.
Crockett, L. A., from Bloomington to 249 N. Pennsylvania St., Indianapolis, Ind.
Cox, G. W., from Chicago, Ill., to 774 E. Congress St., Detroit, Mich.
Colwell, N. P., 757 W. Monroe St., Chicago.
Coales, W. E. from 655 W. 12 to 2231 W. Congress St., Chicago.
Durkee, A. C., from Joliet to 578 W. Congress St., Chicago.
Felt, R. A., from Knoxville, Ill. to Oconomowoc, Wis.
Griffin, R. W., from Rutherford to Martin, Tenn.
Goelet, A. H., from 108 W. 73d to 116 W. 74th St., New York City.
Harris, J. G., from 918 S. 12th to 624 Catharine St., Philadelphia, Pa.
Hamley, E. C., from Maquoketa, Ia. to 238 S. Winchester Ave., Chicago.
Homer, C. P., from Chicago to Wabash R. R. Hospt., Springfield, Ill.
Keath, J. W., from Philadelphia to Shaferstown, Pa.
Leavell, H. N., from Louisville, Ky. to Amissville, Va.
LeMoyne, F., from Atlantic City, N. J. to 503 Castleman St., Pittsburg, Pa.
Lucas, F. B., from 314 W. Madison to 700 Knox St., Peoria, Ill.
Meek, J. M., from Morgan to Falmouth, Ky.
O'Brien, M. C., from Lewiston, Me., to 161 W. 122d St., New York City.
Perry, T. B., from San Francisco, Cal., to U. S. Marine Hospt., Stapleton, L. I., N. Y.
Pfouts, I. M., from Massillon to Beach City, Ohio.
Porter, W. O., from Morton to Caldmere, Miss.
Rees, H., from Hatton N. D. to Highlandville, Ia.
Rieman, W. H., from Capac to St. Clair, Mich.
Rodenhaus, E., from Quincy to Main and 8th Sts., Lafayette, Ind.
Webb, J. A. H., from Stafford to Steward, Kan.
Woodard, B. C., from Cecil to Adel, Ga.